

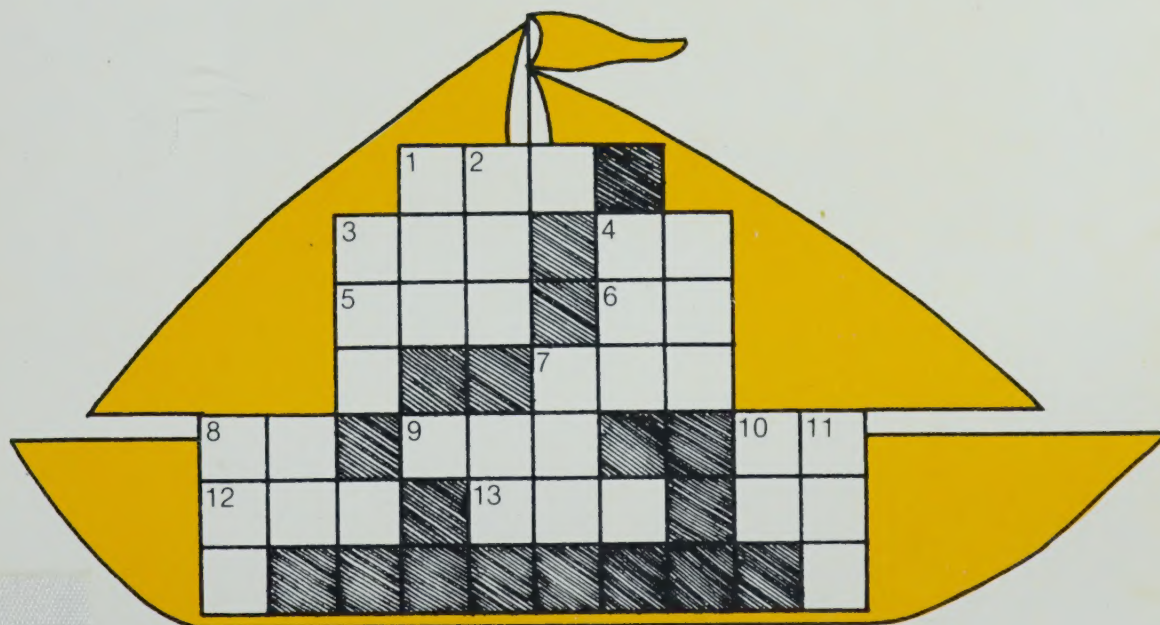


starting points in mathematics

4

blackline masters

Complete the cross-number puzzle.



CURRICULUM

Across

1. $\begin{array}{r} 32 \\ \times 4 \\ \hline \end{array}$

3. $\begin{array}{r} 58 \\ \times 4 \\ \hline \end{array}$

4. $\begin{array}{r} 34 \\ \times 2 \\ \hline \end{array}$

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Blackline Masters for

starting points
in mathematics

Level 4

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To the Teacher

This book is designed for use with *Starting Points in Mathematics 4 Revised* and provides the following.

Contents of Blackline Masters	T2–T3
Teacher’s Notes	T4–T6
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Masters 1 to 64 provide reteaching lessons for key lessons in the student text. Masters 65 to 80 provide problem-solving extensions for the problem-solving lessons in the student text. Masters 81 to 96 provide enrichment lessons for each unit. The Contents on page T2 and T3 suggest the corresponding student text page with which each reteaching and problem-solving master may be used. The student text page also appears at the top of each of these masters. The corresponding unit suggested for each enrichment master is identified on the Contents page and again on the top of the master. It must be kept in mind, however, that the most appropriate time for use of each master is best determined by the teacher for his or her particular class.

On the reteaching masters, one or more answers are provided to allow students to determine whether they are proceeding correctly. For any exercise with a domino beside it, students can find a corresponding domino with the answer at the bottom of the page.

Before assigning independent work, the teacher should make certain that the directions are understood by the students. When a page has been completed, the teacher and the students should discuss and correct the responses together. Better learning will occur if the correction can take place as soon as possible after the page is completed.

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Teacher's Notes

- 1 The use of manipulative materials such as beads or toothpicks in bundles of ten will be helpful for those students having difficulty understanding place value.
- 2 This page provides practice in writing standard numerals and interpreting place value in numerals through 999.
- 3 Students should understand that there is more than one correct choice for the answers to exercises 16 to 24.
- 4 Additional explanation is needed if the students are to round numbers that are equidistant to two numbers on the number line.
- 5 As an additional classroom activity, you may wish to have your students round their ages, heights, or historical dates.
- 6 This page provides practice in writing fractions to show a part of a set.
- 7 The purpose of this page is to provide practice with basic addition facts. Make sure students understand the directions for solving the code before assigning the page.
- 8 On this page, your students are using the associative property of addition. By matching the problems at the bottom of the page without first solving them, students are demonstrating their understanding of the property.
- 9 This page provides practice in addition of two addends with no regrouping.
- 10 As a preliminary to addition with regrouping, students will use pictures to work through regrouping exercises.
- 11 This page provides practice in addition of two-digit numbers with one regrouping from ones to tens.
- 12 On this page, students review regrouping from ones to tens and from tens to hundreds before practising addition examples with two regroupings.
- 13 Along with addition practice, students review comparing and ordering numbers as they complete the dot-to-dot puzzle.
- 14 This page gives the students an opportunity to review rounding to the nearest ten, hundred, or thousand before solving estimation problems.
- 15 On this page, students review basic subtraction facts. Students who are having difficulty can draw pictures for each exercise.
- 16 On this page students can see the relationship between addition and subtraction as they complete fact families.
- 17 This page provides practice in subtraction of two-digit numbers without regrouping.
- 18 As a preliminary to subtraction with regrouping, students will use pictures to work through regrouping exercises.
- 19 To solve the subtraction exercises on this page, students must regroup tens to ones.
- 20 To solve the subtraction exercises on this page, students must regroup from tens to ones, from hundreds to tens, and from thousands to hundreds.
- 21 This page provides practice in regrouping with zeros. Two or more regroupings are needed to solve the problems.
- 22 After completing the subtraction squares, discuss with your students the "magic" of the corner box.
- 23 As an additional topic you may wish to discuss types of triangles and types of quadrilaterals with your students.
- 24 Students will need tracing paper to complete this page. You may wish to have the students point out the figures that are the same shape but not the same size.
- 25 On this page, students use the number line to show basic multiplication facts. Each exercise can also be shown as an array for those students who need extra help.
- 26 This page provides drill on the basic multiplication facts. For some students it may be helpful to represent each fact with an array.
- 27 The purpose of this page is to provide practice in solving word problems involving basic multiplication facts. Make sure that students understand the directions to the tick-tack-toe game before assigning the page.
- 28 Students complete multiplication patterns as an introduction to multiplication by factors of 10.
- 29 This page provides practice in multiplication of a two-digit number by a one-digit number.
- 30 On this page, students multiply money amounts. They are taught to place the decimal point by converting from dollars to cents and back to dollars again.
- 31 On this page, students are using the associative property of multiplication. The property is not named at this point.
- 32 This page serves as an introduction to division through the concept of sharing. As the students complete the diagrams, tell them to cross out each seed as they share them among the flowerpots.

- 33 On this page, students will see the relationship between multiplication and division as they complete "fact families."
- 34 For some students it may be necessary to represent each of the division facts as an array.
- 35 On this page students complete patterns as they extend division facts to include dividends which are multiples of 10.
- 36 This page provides division practice with divisors of 6 through 9. The exercises on this page have no remainders.
- 37 The purpose of this page is to provide additional practice in division by a one-digit number. Basic facts are needed to solve the problems.
- 38 As an additional activity you may wish to have your students list letters of the alphabet that have line symmetry and make up symmetrical words using the letters.
- 39 Emphasize that in an ordered pair, the "over" number or letter comes first and the "up" number or letter comes second.
- 40 Have students place each decimal into a place-value chart showing ones and tenths.
- 41 On this page, the place value chart can be extended to include hundredths. Students should show each decimal number on the place-value chart.
- 42 Diagrams are used so that students can clearly see the relationship between tenths and hundredths. For those students who need extra help, draw diagrams for exercises 7 to 12.
- 43 By completing the dot-to-dot puzzle, students gain practice in ordering decimal numbers through hundredths.
- 44 The purpose of this page is to provide practice in addition and subtraction of decimals written as tenths and written as hundredths. Regrouping is necessary in some of the exercises.
- 45 On this page students multiply a decimal written in tenths by a one-digit number. Before assigning the cross-number puzzle, remind the students that each decimal point gets placed in its own box.
- 46 Make sure that your students understand that it is not necessary to find the exact sums and products to complete this page.
- 47 As an additional activity, students can list objects in the classroom that would be measured in centimetres and in metres.
- 48 Students can practise computing perimeter as well as practise using a ruler by measuring objects in the classroom, such as desk tops or textbook covers.
- 49 For those problems involving half centimetres, some students may find it helpful to cut out the half centimetres and put them together to make centimetres.
- 50 Before assigning the page, introduce the concept of volume by having students build figures out of cubic centimetre blocks.
- 51 This page provides practice in multiplication of a two-digit number by a one-digit number.
- 52 The purpose of this page is to provide practice in multiplication of a three-digit number by a one-digit number.
- 53 Make sure that your students understand the directions to the rounding activity before assigning the page. Emphasize that they are not supposed to multiply to find the exact products.
- 54 The purpose of this page is for students to complete patterns in order to facilitate multiplication by multiples of 10, 100, and 1000.
- 55 On this page students use multiplication facts to divide. Some students may find it helpful to draw pictures and use the concept of sharing.
- 56 This page provides practice in dividing a three-digit number by a one-digit number. No regrouping is required.
- 57 The division exercises on this page require students to regroup tens to ones.
- 58 On this page, students divide a three-digit number by a one-digit number. Regrouping from hundreds to tens is required.
- 59 Students should understand the meaning of an average before they complete the exercises on this page.
- 60 The purpose of this page is to provide practice in division by a one-digit divisor. Regrouping twice is required.
- 61 This page reviews how to tell time to the minute. Students who need extra practice can draw hands on a clock to show the time they do their daily activities.
- 62 Showing actual millilitre and litre containers will help students to become familiar with the measurements.
- 63 If students have access to a scale, they should measure the mass of various classroom objects.
- 64 It is important that students realize that in each set of pictures, exactly the same amount is shaded.

- 65 You may wish to read the list of mountains with the class. Point out that this is not a list of the ten highest mountains; it is a list of some high mountains.
- 66 You may wish to make sure that students know what the various items are.
- 67 Students may have difficulty with exercise 8. You may wish to give a quick review of elapsed time.
- 68 Be sure students understand the list of numbers. Have them make their tally in the space provided on the page.
- 69 Point out that in each row one figure is different from the others. Sometimes a figure will be rotated; this does not make it different.
- 70 Be sure students understand the terminology: *withdrew*, *deposited*, and *balance*.
- 71 Go over the items pictured at the top of the page to be sure the students understand what they are and how much they cost. Emphasize that they are to write an equation for each exercise before solving any. Exercise 7 requires two steps; you may wish to observe how the students approach it.
- 72 You may want to tell the class that the answer to exercise 6 is a fraction.
- 73 Emphasize that the numbers in these exercises have been “covered up” and that the task here is to choose the correct operation.
- 74 You may wish to work through exercise 1 with the class. Leave ample time for students to work through the page.
- 75 You might wish to discuss the tower with the students. This concept can be extended to a tower with as many rows as you wish. Some students may wish to explore these possibilities.
- 76 The first exercise is best done with concrete objects. Students can use counters, paper circles, or coins. The addition tables may be difficult for some students.
- 77 Exercise 3 has many solutions. You may wish to suggest that students make a table.
- 78 Go over the items at the top of the page; be sure everyone can read the names of the plants. Emphasize that the answers can be found by estimating alone. You may wish to let students check their answers with calculators.
- 79 Tell students they should print the number in each exercise on the line provided but with the decimal point in the correct place.
- 80 Let students start on this page with no introduction. They may need to work on it over a period of several days off and on. Some students may find it difficult; if you wish, let them work on it in groups.
- 81 These word problems emphasize logic and reasoning rather than computational skills. Tell your students to think each problem through carefully before beginning.
- 82 You might work a sample problem with your students so they see how to determine logically where the darts land.
- 83 Be certain your students realize that in any given problem, the same shapes have the same numbers inside them.
- 84 Be sure your students know how to read the flow chart before they begin the page.
- 85 Have your students trace the bottom and top edges of each loop. There are two edges in a regular loop, but only one edge in a Moebius strip.
- 86 Be sure your students realize there is only one way to connect the numbers to get the number in the final box.
- 87 Explain the term *composite numbers* as it relates to the numbers on the grid. Then have your students name the factors for some of the composite numbers.
- 88 Show your students the algebraic answers in the last example to help explain why number tricks work.
- 89 The last question could lead to a discussion of similar shapes as compared to congruent shapes.
- 90 Your students must add tenths and hundredths on this page. Be sure they realize they must line up the decimal points before adding.
- 91 Your students must use logic and reasoning skills to solve this money page.
- 92 Review the terms *perimeter* and *area* before your students begin this page.
- 93 Be sure your students understand how to use the lattice multiplication method before they complete the page on their own.
- 94 Provide a few examples for each divisibility rule to be sure your students understand the concepts.
- 95 Before beginning this page, discuss the reasons for dividing the world into time zones.
- 96 Tell your students to use the fractional values given to determine the value of the remaining sections.

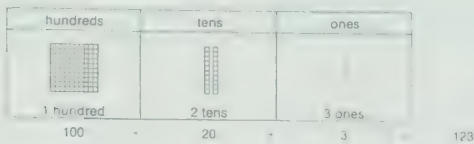
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SPM 4 Masters
With pages 6-5

1

Numbers to 999

We can show the number one hundred twenty-three this way



Write the numeral for each picture

1. 2 ones = 2
2. 1 ten = 10
3. 3 hundreds = 300
4. 2 hundreds 1 ten 3 ones = 203

Write the standard form for each

5. eight hundred thirty-six 836
6. forty-five 45
7. three hundred fifty-six 356
8. ninety-seven 97
9. 5 hundreds 2 tens 9 ones 529
10. 7 hundreds 0 tens 8 ones 708
11. 2 hundreds 1 ten 0 ones 210
12. 1 hundred 6 tens 3 ones 163

Find the Mystery Numeral.

78	261	308	55	521	98	182	509	63	80	502	64	108	511
790	38	593	507	68	896	65	560	8	608	328	8	67	568

Shade all numerals with an 8 in the ones place.

Shade all numerals with a 6 in the tens place.

Shade all numerals with a 5 in the hundreds place.

The mystery numeral is 856.

100 = 1 hundred = 100
 20 = 2 tens = 20
 3 = 3 ones = 3

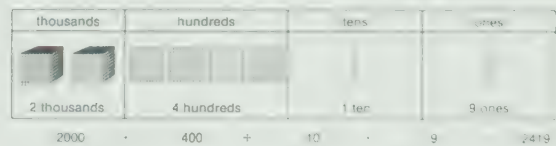
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SPM 4 Masters
With pages 6-5

2

Numbers to 9999

We can show the number two thousand four hundred nineteen this way



What does the underlined digit mean?

1. 2468 4 hundreds
2. 1234 3 tens
3. 51 1 one
4. 98 1 tens
5. 5876 6 ones
6. 75 5 tens

Write each number in standard form. Follow the path of the answers in order from 7 to 18. Help the mouse find the cheese.

7. $3000 + 100 + 20 + 3$ 3123
8. $5000 + 40 + 2$ 5042
9. $500 + 90 + 1$ 591
10. $400 + 50 + 9$ 459
11. eighty-nine 89
12. 1000
13. 1000
14. 1000
15. one thousand twenty 1020
16. four thousand two hundred three 4203
17. three hundred twenty 320
18. two thousand seven 2007



4520	559	120	104	1200
5422	951	23	1020	2007
3123	5042	89	4203	320
5420	581	459	4230	2700



100 = 1 hundred = 100
 20 = 2 tens = 20
 3 = 3 ones = 3

NAME _____

SPM 4 Masters
With pages 12-13

3

Comparing and Ordering Numbers

Compare 4319 and 4359

Compare the digits starting at the left

thousands	hundreds	tens	ones
4	3	1	9
4	3	5	9

same same 1 ten < 5 tens
so, 4319 < 4359

Write > or < to make each sentence true.

1. 709 < 790
2. 839 < 841
3. 522 < 468
4. 3205 < 3502
5. 1647 > 1567
6. 7926 < 7984
7. 6229 < 6292
8. 5060 > 5006
9. 2384 < 2438

List from greatest to least

10. 394, 786, 241, 532 786, 532, 394, 241
11. 4639, 3967, 8543, 1057 8543, 4639, 3967, 1057
12. 5556, 5152, 5565, 4556 5565, 5556, 5152, 4556

List from least to greatest

13. 604, 7135, 66, 8000 66, 604, 7135, 8000
14. 5247, 5269, 5208, 5274 5208, 5247, 5269, 5274
15. 3827, 3892, 3852, 3982 3827, 3852, 3892, 3982

Choose a number from the list below. Fill in the blanks to make true sentences.

- 135 138 140 153 139 120
16. 135 < 137
17. 142 < 153
18. 120 < 135
19. 153 > 140
20. 135 > 120
21. 140 > 120
22. 120 < 130
23. 153 > 150
24. 140 > 139

Answers may vary.

120, 135, 138, 139, 140, 142, 146, 153, 156, 159, 162, 165, 168, 171, 174, 177, 180, 183, 186, 189, 192, 195, 198, 201, 204, 207, 210, 213, 216, 219, 222, 225, 228, 231, 234, 237, 240, 243, 246, 249, 252, 255, 258, 261, 264, 267, 270, 273, 276, 279, 282, 285, 288, 291, 294, 297, 300, 303, 306, 309, 312, 315, 318, 321, 324, 327, 330, 333, 336, 339, 342, 345, 348, 351, 354, 357, 360, 363, 366, 369, 372, 375, 378, 381, 384, 387, 390, 393, 396, 399, 402, 405, 408, 411, 414, 417, 420, 423, 426, 429, 432, 435, 438, 441, 444, 447, 450, 453, 456, 459, 462, 465, 468, 471, 474, 477, 480, 483, 486, 489, 492, 495, 498, 501, 504, 507, 510, 513, 516, 519, 522, 525, 528, 531, 534, 537, 540, 543, 546, 549, 552, 555, 558, 561, 564, 567, 570, 573, 576, 579, 582, 585, 588, 591, 594, 597, 600, 603, 606, 609, 612, 615, 618, 621, 624, 627, 630, 633, 636, 639, 642, 645, 648, 651, 654, 657, 660, 663, 666, 669, 672, 675, 678, 681, 684, 687, 690, 693, 696, 699, 702, 705, 708, 711, 714, 717, 720, 723, 726, 729, 732, 735, 738, 741, 744, 747, 750, 753, 756, 759, 762, 765, 768, 771, 774, 777, 780, 783, 786, 789, 792, 795, 798, 801, 804, 807, 810, 813, 816, 819, 822, 825, 828, 831, 834, 837, 840, 843, 846, 849, 852, 855, 858, 861, 864, 867, 870, 873, 876, 879, 882, 885, 888, 891, 894, 897, 900, 903, 906, 909, 912, 915, 918, 921, 924, 927, 930, 933, 936, 939, 942, 945, 948, 951, 954, 957, 960, 963, 966, 969, 972, 975, 978, 981, 984, 987, 990, 993, 996, 999

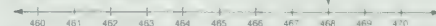
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SPM 4 Masters
With pages 14-15

4

Rounding to the Nearest 10

Look at 468 on the number line.



468 comes between 460 and 470

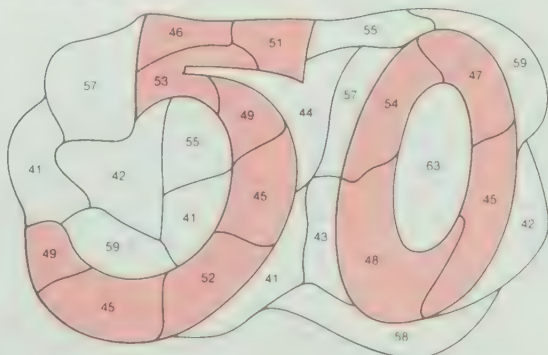
468 is closer to 470

468 rounded to the nearest ten is 470

Round to the nearest ten

1. 51 50
2. 67 70
3. 84 80
4. 46 50
5. 19 20
6. 24 20
7. 381 380
8. 427 430
9. 549 550
10. 197 200
11. 283 280
12. 598 600
13. 1456 1460
14. 3270 3270
15. 9888 9890
16. 9623 9620

Shade all the numerals that round to 50



Rounding to the Nearest 100, 1000

Look at 450 on the number line.



450 comes between 400 and 500.

It is the same distance from 400 as it is from 500.

When this happens always round to the higher number.

450 rounded to the nearest hundred is 500.

Round to the nearest hundred.

1. 218 200 2. 319 300 3. 257 300 4. 680 700
 5. 479 500 6. 550 600 7. 2736 2700 8. 1501 1500
 9. 6291 6300 10. 4089 4100 11. 3813 3800 12. 7109 7100

Round to the nearest thousand.

13. 1299 1000 14. 2500 3000 15. 3605 4000 16. 4444 4000
 17. 6066 6000 18. 7429 7000 19. 8515 9000 20. 5500 6000

Here is a code.

300	200	500	800	3400	900	100	400	2000
O	D	U	G	F	N	R	I	S

Round each number to the nearest hundred. What is the message?

98	319	450	949	151	380	888	829
100	300	500	900	200	400	900	800
R	O	U	N	D	I	N	G

437	1950
400	2000
I	S

3364	549	853
3400	500	900
F	U	N

0009 002 0069 005 0001

Fractions

Fractions Less Than 1

	Number of equal parts	Number of parts shaded	Fraction
	2	1	$\frac{1}{2}$
	4	3	$\frac{3}{4}$
	5	2	$\frac{2}{5}$

Fractions Greater Than 1

	$\frac{7}{4} = 1\frac{3}{4}$
	$\frac{8}{3} = 2\frac{2}{3}$
	$\frac{5}{2} = 2\frac{1}{2}$

Write a fraction for the shaded part.

1. $\frac{3}{4}$ 2. $\frac{1}{2}$ 3. $\frac{1}{2}$
 4. $\frac{3}{4}$ 5. $\frac{3}{4}$ 6. $\frac{3}{4}$
 7. $\frac{3}{4}$ 8. $\frac{3}{4}$ 9. $\frac{3}{4}$
 10. $\frac{3}{4}$ 11. $\frac{3}{4}$ 12. $\frac{3}{4}$

 $\frac{5}{6} = \frac{5}{6}$ $\frac{8}{8} = \frac{8}{8}$ $\frac{1}{2} = \frac{1}{2}$ $\frac{2}{2} = \frac{2}{2}$

Addition, Basic Facts

3 kittens are in a basket.

2 kittens are in another basket.

How many kittens are there in all?

There are 5 kittens in all.



$$3 + 2 = 5$$

sum

Add.

1. $4 + 6 = 10$ 2. $5 + 3 = 8$ 3. $7 + 2 = 9$
 4. $6 + 0 = 6$ 5. $1 + 3 = 4$ 6. $7 + 6 = 13$
 7. $5 + 9 = 14$ 8. $8 + 9 = 17$ 9. $7 + 9 = 16$
 10. $\begin{array}{r} 6 \\ +3 \\ \hline 9 \end{array}$ 11. $\begin{array}{r} 7 \\ +5 \\ \hline 12 \end{array}$ 12. $\begin{array}{r} 9 \\ +0 \\ \hline 9 \end{array}$ 13. $\begin{array}{r} 7 \\ +7 \\ \hline 14 \end{array}$ 14. $\begin{array}{r} 6 \\ +9 \\ \hline 15 \end{array}$ 15. $\begin{array}{r} 8 \\ +8 \\ \hline 16 \end{array}$
 16. $\begin{array}{r} 4 \\ +3 \\ \hline 7 \end{array}$ 17. $\begin{array}{r} 9 \\ +9 \\ \hline 18 \end{array}$ 18. $\begin{array}{r} 5 \\ +5 \\ \hline 10 \end{array}$ 19. $\begin{array}{r} 6 \\ +8 \\ \hline 14 \end{array}$ 20. $\begin{array}{r} 9 \\ +4 \\ \hline 13 \end{array}$ 21. $\begin{array}{r} 7 \\ +1 \\ \hline 8 \end{array}$

Riddle Key

Here is a code.

11	13	12	15	9	14	18
K	O	Y	D	E	N	A

Add to find the answer to the riddle below.

What kind of a key cannot open a lock?

$\begin{array}{r} 9 \\ +9 \\ \hline 18 \end{array}$	$\begin{array}{r} 7 \\ +8 \\ \hline 15 \end{array}$	$\begin{array}{r} 4 \\ +9 \\ \hline 13 \end{array}$	$\begin{array}{r} 6 \\ +8 \\ \hline 14 \end{array}$	$\begin{array}{r} 6 \\ +5 \\ \hline 11 \end{array}$	$\begin{array}{r} 3 \\ +6 \\ \hline 9 \end{array}$	$\begin{array}{r} 5 \\ +7 \\ \hline 12 \end{array}$
A	D	O	N	K	E	Y

9 14 10 7 6

Adding Three Numbers

Eddie adds 5, 8, and 2 this way.

$$\begin{array}{r} (5 + 8) + 2 = 15 \\ 13 + 2 = 15 \end{array}$$

Marge adds 5, 8, and 2 this way.

$$\begin{array}{r} 5 + (8 + 2) = 15 \\ 5 + 10 = 15 \end{array}$$

Add.

1. $(3 + 8) + 6 = 17$ 2. $3 + (8 + 6) = 17$ 3. $(4 + 0) + 9 = 13$
 4. $6 + (3 + 7) = 16$ 5. $9 + (8 + 2) = 19$ 6. $9 + (7 + 3) = 19$
 7. $4 + (2 + 8) = 14$ 8. $(6 + 4) + 9 = 19$ 9. $(5 + 6) + 7 = 18$
 10. $\begin{array}{r} 5 \\ +6 \\ \hline 11 \end{array}$ 11. $\begin{array}{r} 3 \\ +9 \\ \hline 12 \end{array}$ 12. $\begin{array}{r} 6 \\ +8 \\ \hline 14 \end{array}$ 13. $\begin{array}{r} 9 \\ +7 \\ \hline 16 \end{array}$ 14. $\begin{array}{r} 8 \\ +4 \\ \hline 12 \end{array}$ 15. $\begin{array}{r} 7 \\ +5 \\ \hline 12 \end{array}$
 16. $\begin{array}{r} 9 \\ +8 \\ \hline 17 \end{array}$ 17. $\begin{array}{r} 2 \\ +9 \\ \hline 11 \end{array}$ 18. $\begin{array}{r} 3 \\ +9 \\ \hline 12 \end{array}$ 19. $\begin{array}{r} 5 \\ +7 \\ \hline 12 \end{array}$ 20. $\begin{array}{r} 6 \\ +8 \\ \hline 14 \end{array}$ 21. $\begin{array}{r} 7 \\ +6 \\ \hline 13 \end{array}$

Match the problem in Column A to the problem in Column B with the same sum. It is not necessary to solve the problems.

Column A

- $3 + (6 + 9)$
 $(5 + 3) + 8$
 $4 + (7 + 6)$
 $(6 + 5) + 8$
 $9 + (5 + 0)$

Column B

- $(4 + 7) + 6$
 $(9 + 5) + 0$
 $5 + (3 + 8)$
 $(3 + 6) + 9$
 $6 + (5 + 8)$

91 18 22 17 14

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9

Addition, No Regrouping

143 flowers are on one shelf
256 flowers are on another.
How many flowers are there in all?
Add 143 and 256



<p>Add the ones</p> $\begin{array}{r} 143 \\ + 256 \\ \hline 9 \end{array}$	<p>Add the tens</p> $\begin{array}{r} 143 \\ + 256 \\ \hline 99 \end{array}$	<p>Add the hundreds</p> $\begin{array}{r} 143 \\ + 256 \\ \hline 399 \end{array}$
---	--	---

There are 399 flowers in all.

Add

- | | | | | |
|--|--|--|--|---|
| 1. $\begin{array}{r} 42 \\ + 31 \\ \hline \end{array}$ | 2. $\begin{array}{r} 51 \\ + 26 \\ \hline \end{array}$ | 3. $\begin{array}{r} 36 \\ + 12 \\ \hline \end{array}$ | 4. $\begin{array}{r} 35 \\ + 24 \\ \hline \end{array}$ | 5. $\begin{array}{r} 42 \\ + 17 \\ \hline \end{array}$ |
| 6. $\begin{array}{r} 126 \\ + 233 \\ \hline \end{array}$ | 7. $\begin{array}{r} 234 \\ + 123 \\ \hline \end{array}$ | 8. $\begin{array}{r} 162 \\ + 235 \\ \hline \end{array}$ | 9. $\begin{array}{r} 465 \\ + 334 \\ \hline \end{array}$ | 10. $\begin{array}{r} 371 \\ + 528 \\ \hline \end{array}$ |

What Is the Mystery Digit?

Find the 7 sums. Cross out each digit of the sums in the strip of digits.
When you have finished there will be one digit left.

3	4	5	5	5	6	6	6	6	7	7	7	8	8	8	8	8	9	9	9	9	9
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

- | | | | |
|---|---|---|---|
| 11. $\begin{array}{r} 246 \\ + 123 \\ \hline \end{array}$ | 12. $\begin{array}{r} 251 \\ + 346 \\ \hline \end{array}$ | 13. $\begin{array}{r} 3652 \\ + 1045 \\ \hline \end{array}$ | 14. $\begin{array}{r} 28 \\ + 61 \\ \hline \end{array}$ |
| 15. $\begin{array}{r} 4856 \\ + 2132 \\ \hline \end{array}$ | 16. $\begin{array}{r} 261 \\ + 328 \\ \hline \end{array}$ | 17. $\begin{array}{r} 453 \\ + 125 \\ \hline \end{array}$ | |

55E 55E9 55E 55E

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10

Regrouping

<p>10</p> <p>1 ten 10 ones</p>	<p>26</p> <p>2 tens 6 ones</p>
--------------------------------	--------------------------------

Write the number for each picture

- | | | |
|-------------------------------|----|--------------------------------------|
| 1. | or | 2. |
| 1 ten 4 ones = <u>14</u> ones | | 16 ones = <u>1</u> ten <u>6</u> ones |
| 3. | or | 4. |
| 1 ten 1 ones = <u>11</u> ones | | 1 ones 1 ten = <u>11</u> ones |

Regroup to show more tens

- | | |
|---|---|
| 5. 4 tens 15 ones = <u>5</u> tens <u>5</u> ones | 6. 7 tens 13 ones = <u>8</u> tens <u>3</u> ones |
| 7. 2 tens 10 ones = <u>3</u> tens <u>0</u> ones | 8. 3 tens 12 ones = <u>4</u> tens <u>2</u> ones |

55E 55E9 55E 55E

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11

Addition, Regrouping Ones

18 books are on one shelf
24 books are on another.
How many books are there in all?
Add 18 and 24



<p>Add the ones</p> $\begin{array}{r} 18 \\ + 24 \\ \hline 2 \end{array}$ <p>Regroup 12 ones as 1 ten 2 ones</p>	<p>Add the tens</p> $\begin{array}{r} 18 \\ + 24 \\ \hline 42 \end{array}$
--	--

There are 42 books in all.

Add

- | | | | | |
|--|--|--|--|---|
| 1. $\begin{array}{r} 36 \\ + 25 \\ \hline \end{array}$ | 2. $\begin{array}{r} 59 \\ + 14 \\ \hline \end{array}$ | 3. $\begin{array}{r} 18 \\ + 12 \\ \hline \end{array}$ | 4. $\begin{array}{r} 14 \\ + 29 \\ \hline \end{array}$ | 5. $\begin{array}{r} 47 \\ + 19 \\ \hline \end{array}$ |
| 6. $\begin{array}{r} 27 \\ + 34 \\ \hline \end{array}$ | 7. $\begin{array}{r} 35 \\ + 45 \\ \hline \end{array}$ | 8. $\begin{array}{r} 48 \\ + 43 \\ \hline \end{array}$ | 9. $\begin{array}{r} 66 \\ + 27 \\ \hline \end{array}$ | 10. $\begin{array}{r} 39 \\ + 35 \\ \hline \end{array}$ |

Solve

- | | |
|--|--|
| 11. 17 red pencils.
15 blue pencils.
How many pencils in all?
<u>32</u> | 12. 25 math books.
19 reading books.
How many books in all?
<u>44</u> |
|--|--|

Add. Then draw a line through the row
where the answers are the same

B I N G O		
$\begin{array}{r} 46 \\ + 25 \\ \hline \end{array}$	$\begin{array}{r} 39 \\ + 48 \\ \hline \end{array}$	$\begin{array}{r} 57 \\ + 14 \\ \hline \end{array}$
$\begin{array}{r} 33 \\ + 38 \\ \hline \end{array}$	$\begin{array}{r} 58 \\ + 29 \\ \hline \end{array}$	$\begin{array}{r} 38 \\ + 35 \\ \hline \end{array}$
$\begin{array}{r} 24 \\ + 47 \\ \hline \end{array}$	$\begin{array}{r} 55 \\ + 35 \\ \hline \end{array}$	$\begin{array}{r} 42 \\ + 29 \\ \hline \end{array}$

19 20 19

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12

Addition, Two Regroupings

123 birds are on a wire
87 birds are in a tree.
How many birds are there in all?
Add 123 and 87



<p>Add the ones</p> $\begin{array}{r} 123 \\ + 87 \\ \hline 0 \end{array}$ <p>Regroup 10 ones as 1 ten 0 ones</p>	<p>Add the tens</p> $\begin{array}{r} 123 \\ + 87 \\ \hline 10 \end{array}$ <p>Regroup 11 tens as 1 hundred 1 ten</p>	<p>Add the hundreds</p> $\begin{array}{r} 123 \\ + 87 \\ \hline 210 \end{array}$
---	---	--

There are 210 birds in all.

Regroup to show more tens

- | | |
|---|---|
| 1. 35 ones = <u>3</u> tens <u>5</u> ones | 2. 17 ones = <u>1</u> ten <u>7</u> ones |
| 3. 2 tens 16 ones = <u>3</u> tens <u>6</u> ones | 4. 5 tens 11 ones = <u>6</u> tens <u>1</u> ones |
| 5. 7 tens 10 ones = <u>8</u> tens <u>0</u> ones | 6. 8 tens 18 ones = <u>9</u> tens <u>8</u> ones |

Regroup to show more hundreds

- | | |
|--|--|
| 7. 15 tens = <u>1</u> hundred <u>5</u> tens | 8. 23 tens = <u>2</u> hundreds <u>3</u> tens |
| 9. 1 hundred 10 tens = <u>2</u> hundreds <u>0</u> tens | |
| 10. 2 hundreds 12 tens = <u>3</u> hundreds <u>2</u> tens | |

Add

- | | | | |
|--|--|---|---|
| 11. $\begin{array}{r} 876 \\ + 98 \\ \hline \end{array}$ | 12. $\begin{array}{r} 359 \\ + 451 \\ \hline \end{array}$ | 13. $\begin{array}{r} 764 \\ + 336 \\ \hline \end{array}$ | 14. $\begin{array}{r} 107 \\ + 443 \\ \hline \end{array}$ |
| 15. $\begin{array}{r} 1243 \\ + 465 \\ \hline \end{array}$ | 16. $\begin{array}{r} 1648 \\ + 342 \\ \hline \end{array}$ | 17. $\begin{array}{r} 2951 \\ + 2862 \\ \hline \end{array}$ | 18. $\begin{array}{r} 3875 \\ + 1518 \\ \hline \end{array}$ |

55E 55E9 55E 55E

Adding Three Numbers

Add 2346, 157, and 3890.

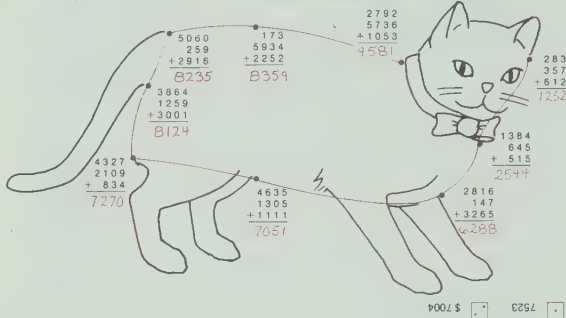
Add the ones.	Add the tens.	Add the hundreds.	Add the thousands.
$\begin{array}{r} 1 \\ 2346 \\ 157 \\ + 3890 \\ \hline 3 \end{array}$	$\begin{array}{r} 11 \\ 2346 \\ 157 \\ + 3890 \\ \hline 93 \end{array}$	$\begin{array}{r} 11 \\ 2346 \\ 157 \\ + 3890 \\ \hline 393 \end{array}$	$\begin{array}{r} 1 \\ 2346 \\ 157 \\ + 3890 \\ \hline 6393 \end{array}$
Regroup 13 ones as 1 ten 3 ones.	Regroup 19 tens as 1 hundred 9 tens.	Regroup 13 hundreds as 1 thousand 3 hundreds.	

The sum of 2346, 157, and 3890 is 6393.

Add. Then add in the other direction to check.

1. $\begin{array}{r} 542 \\ 6873 \\ + 108 \\ \hline 7523 \end{array}$ 2. $\begin{array}{r} 3462 \\ 3841 \\ + 1593 \\ \hline 5783 \end{array}$ 3. $\begin{array}{r} 1955 \\ 3128 \\ + 4136 \\ \hline 9219 \end{array}$ 4. $\begin{array}{r} 5374 \\ 276 \\ + 1023 \\ \hline 6673 \end{array}$
5. $\begin{array}{r} \$1538 \\ 3359 \\ + 2107 \\ \hline \$7004 \end{array}$ 6. $\begin{array}{r} \$1985 \\ 3841 \\ + 2702 \\ \hline \$8528 \end{array}$ 7. $\begin{array}{r} \$3059 \\ 563 \\ + 1327 \\ \hline \$4949 \end{array}$ 8. $\begin{array}{r} \$2843 \\ 163 \\ + 2114 \\ \hline \$5120 \end{array}$

Solve the problems. Connect the dots from the smallest sum to the largest.



Estimating the Sum

We can round to the nearest ten, hundred, or thousand.

Number of Students in Dover School

Grade	Number of students	Round to the nearest ten	Round to the nearest hundred	Round to the nearest thousand
4	1528	1530	1500	2000
5	1281	1280	1300	1000
6	950	950	1000	1000

How many students are in grades 4 and 5? To estimate to the nearest hundred, first round each number to the nearest hundred, then add.

$$\begin{array}{r} 1528 \rightarrow 1500 \\ + 1281 \rightarrow 1300 \\ \hline 2800 \end{array}$$

To the nearest hundred, there are 2800 students in grades 4 and 5.

Round each number to the nearest ten, hundred, and thousand.

		Nearest ten	Nearest hundred	Nearest thousand
1.	1324	1320	1300	1000
2.	2561	2560	2600	3000
3.	3846	3850	3800	4000
4.	4309	4310	4300	4000
5.	5952	5950	6000	6000

Use the chart at the top of the page to answer these questions.

6. To the nearest hundred, how many students in all are in grades 4 and 5?
2800
7. To the nearest hundred, how many students in all are in grades 4, 5, and 6?
3800
8. To the nearest thousand, how many students are in grades 4, 5, and 6?
4000

0001, 0002, 1320, 1320, 1000, 2800

Subtraction, Basic Facts

There are 12 puppies. 5 puppies are walking away. How many puppies are left?

There are 7 puppies left.



$12 - 5 = 7$

Subtract.

1. $17 - 9 = 8$ 2. $13 - 6 = 7$ 3. $15 - 7 = 8$
4. $9 - 3 = 6$ 5. $11 - 5 = 6$ 6. $10 - 6 = 4$
7. $16 - 8 = 8$ 8. $18 - 9 = 9$ 9. $17 - 8 = 9$
10. $\begin{array}{r} 15 \\ - 8 \\ \hline 7 \end{array}$ 11. $\begin{array}{r} 12 \\ - 6 \\ \hline 6 \end{array}$ 12. $\begin{array}{r} 11 \\ - 8 \\ \hline 3 \end{array}$ 13. $\begin{array}{r} 9 \\ - 2 \\ \hline 7 \end{array}$ 14. $\begin{array}{r} 8 \\ - 5 \\ \hline 3 \end{array}$ 15. $\begin{array}{r} 14 \\ - 8 \\ \hline 6 \end{array}$
16. $\begin{array}{r} 13 \\ - 6 \\ \hline 7 \end{array}$ 17. $\begin{array}{r} 14 \\ - 9 \\ \hline 5 \end{array}$ 18. $\begin{array}{r} 13 \\ - 4 \\ \hline 9 \end{array}$ 19. $\begin{array}{r} 11 \\ - 9 \\ \hline 2 \end{array}$ 20. $\begin{array}{r} 10 \\ - 8 \\ \hline 2 \end{array}$ 21. $\begin{array}{r} 12 \\ - 9 \\ \hline 3 \end{array}$

Solve the problems. Then cross out each digit of the answers in the strip of digits above the row. When you have finished, all the digits should be crossed out.

A 5 6 7 8 9

- $\begin{array}{r} 10 \\ - 5 \\ \hline 5 \end{array}$ $\begin{array}{r} 15 \\ - 8 \\ \hline 7 \end{array}$ $\begin{array}{r} 14 \\ - 5 \\ \hline 9 \end{array}$ $\begin{array}{r} 12 \\ - 4 \\ \hline 8 \end{array}$ $\begin{array}{r} 13 \\ - 7 \\ \hline 6 \end{array}$ $\begin{array}{r} 11 \\ - 7 \\ \hline 4 \end{array}$
- $\begin{array}{r} 17 \\ - 9 \\ \hline 8 \end{array}$ $\begin{array}{r} 18 \\ - 9 \\ \hline 9 \end{array}$ $\begin{array}{r} 11 \\ - 4 \\ \hline 7 \end{array}$ $\begin{array}{r} 16 \\ - 7 \\ \hline 9 \end{array}$ $\begin{array}{r} 15 \\ - 6 \\ \hline 9 \end{array}$ $\begin{array}{r} 12 \\ - 7 \\ \hline 5 \end{array}$

5 6 7 8 9 9

8 5 8 9 7

Relating Addition and Subtraction

Related Numbers

2	3	5
☆	☆	☆
☆	☆	☆
☆	☆	☆

Family of Facts

$$\begin{array}{l} 2 + 3 = 5 \\ 3 + 2 = 5 \\ 5 - 2 = 3 \\ 5 - 3 = 2 \end{array}$$

Complete the related addition and subtraction facts for each picture.

1. $1 + 6 = 7$ 2. $4 + 5 = 9$
- $6 + 1 = 7$ $5 + 4 = 9$
- $7 - 1 = 6$ $9 - 5 = 4$
- $7 - 6 = 1$ $9 - 4 = 5$
3. $7 + 6 = 13$ 4. $3 + 7 = 10$
- $7 + 6 = 13$ $3 + 7 = 10$
- $13 - 7 = 6$ $10 - 3 = 7$
- $13 - 6 = 7$ $10 - 7 = 3$
5. $5 + 1 = 6$ 6. $3 + 8 = 11$
- $1 + 5 = 6$ $3 + 8 = 11$
- $6 - 1 = 5$ $11 - 3 = 8$
- $6 - 5 = 1$ $11 - 8 = 3$

7 9 6 5 4 3 2 1

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Subtraction, No Regrouping

Patricia has 35 balloons.
She gives 14 balloons away.
How many balloons does she have left?

Subtract 14 from 35

Subtract the ones

35
-14
1

Subtract the tens

35
-14
21

She has 21 balloons left

Subtract

- | | | | | |
|--|--|--|--|--|
| 1. $\begin{array}{r} 31 \\ -10 \\ \hline \end{array}$ | 2. $\begin{array}{r} 44 \\ -21 \\ \hline \end{array}$ | 3. $\begin{array}{r} 56 \\ -25 \\ \hline \end{array}$ | 4. $\begin{array}{r} 65 \\ -33 \\ \hline \end{array}$ | 5. $\begin{array}{r} 54 \\ -13 \\ \hline \end{array}$ |
| 6. $\begin{array}{r} 79 \\ -36 \\ \hline \end{array}$ | 7. $\begin{array}{r} 88 \\ -65 \\ \hline \end{array}$ | 8. $\begin{array}{r} 99 \\ -25 \\ \hline \end{array}$ | 9. $\begin{array}{r} 86 \\ -34 \\ \hline \end{array}$ | 10. $\begin{array}{r} 75 \\ -32 \\ \hline \end{array}$ |
| 11. $\begin{array}{r} 47 \\ -25 \\ \hline \end{array}$ | 12. $\begin{array}{r} 51 \\ -20 \\ \hline \end{array}$ | 13. $\begin{array}{r} 26 \\ -14 \\ \hline \end{array}$ | 14. $\begin{array}{r} 35 \\ -12 \\ \hline \end{array}$ | 15. $\begin{array}{r} 59 \\ -16 \\ \hline \end{array}$ |

A Handy Code

44	22	13	32	14
L	K	O	A	C

Subtract to find the answer to the riddle below.
What has hands but cannot feel?

$\begin{array}{r} 57 \\ -25 \\ \hline 32 \end{array}$	$\begin{array}{r} 87 \\ -73 \\ \hline 14 \end{array}$	$\begin{array}{r} 66 \\ -22 \\ \hline 44 \end{array}$	$\begin{array}{r} 18 \\ -5 \\ \hline 13 \end{array}$	$\begin{array}{r} 98 \\ -84 \\ \hline 14 \end{array}$	$\begin{array}{r} 37 \\ -15 \\ \hline 22 \end{array}$
A					

100 100 100 100 100

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Regrouping

We can regroup to get more ones

19

1 ten 9 ones

or

19 ones

35

3 tens 5 ones

or

2 tens 15 ones

or

35 ones

Write the number under each picture

- | | |
|--|--|
| 1. $\begin{array}{r} 10 \\ -3 \\ \hline \end{array}$
ten <u> </u> one <u> </u> ones <u> </u> | 2. $\begin{array}{r} 10 \\ -1 \\ \hline \end{array}$
ten <u> </u> ones <u> </u> |
| 3. $\begin{array}{r} 10 \\ -3 \\ \hline \end{array}$
ten <u> </u> ones = <u> </u> ones | 4. $\begin{array}{r} 10 \\ -1 \\ \hline \end{array}$
ten <u> </u> ones <u> </u> |

Regroup to show more ones

- | | |
|--|--|
| 5. 2 tens 3 ones = 1 ten <u> </u> ones | 6. 4 tens 2 ones = 3 tens <u> </u> ones |
| 7. 3 tens = 2 tens <u> </u> ones | 8. 6 tens 5 ones = 5 tens <u> </u> ones |
| 9. 3 tens 5 ones = 2 tens <u> </u> ones | 10. 9 tens 1 one = 8 tens <u> </u> ones |

100 100 100 100 100

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Subtraction, Regrouping Tens

32 birds are in a tree.
18 of them are flying away.
How many birds are left?

Subtract 18 from 32

Regroup 3 tens 2 ones
as 2 tens 12 ones.
Subtract the ones

32
-18
14

Subtract the tens

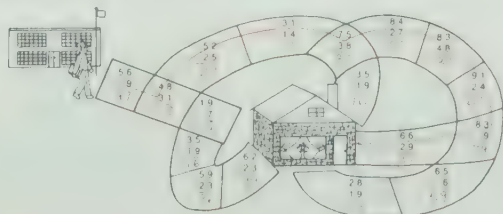
212
-18
14

There are 14 birds left

Subtract

- | | | | | |
|---|---|---|---|--|
| 1. $\begin{array}{r} 48 \\ -19 \\ \hline \end{array}$ | 2. $\begin{array}{r} 75 \\ -36 \\ \hline \end{array}$ | 3. $\begin{array}{r} 81 \\ -26 \\ \hline \end{array}$ | 4. $\begin{array}{r} 60 \\ -32 \\ \hline \end{array}$ | 5. $\begin{array}{r} 83 \\ -35 \\ \hline \end{array}$ |
| 6. $\begin{array}{r} 70 \\ -46 \\ \hline \end{array}$ | 7. $\begin{array}{r} 35 \\ -17 \\ \hline \end{array}$ | 8. $\begin{array}{r} 43 \\ -16 \\ \hline \end{array}$ | 9. $\begin{array}{r} 91 \\ -48 \\ \hline \end{array}$ | 10. $\begin{array}{r} 64 \\ -39 \\ \hline \end{array}$ |

Subtract. Mark all answers that have a 7 as either digit.
You will see the path to Pierre's house.



100 100 100 100 100

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Subtraction, Two or More Regroupings

The school store has 2364 notebooks.
1678 are sold during the year.
How many notebooks are left?

Subtract 1678 from 2364

Regroup 6 tens 4 ones
as 5 tens 14 ones

2364
-1678
686



Regroup 3 hundreds 5 tens
as 2 hundreds 15 tens

2364
-1678
686

Regroup 2 thousands 2 hundreds
as 1 thousand 12 hundreds

2364
-1678
686

Subtract the thousands

2364
-1678
686

There are 686 notebooks left

Subtract

- | | | | | |
|---|--|--|--|---|
| 1. $\begin{array}{r} 376 \\ -189 \\ \hline 187 \end{array}$ | 2. $\begin{array}{r} 487 \\ -89 \\ \hline 398 \end{array}$ | 3. $\begin{array}{r} 586 \\ -298 \\ \hline 288 \end{array}$ | 4. $\begin{array}{r} 947 \\ -358 \\ \hline 589 \end{array}$ | 5. $\begin{array}{r} 783 \\ -295 \\ \hline 488 \end{array}$ |
| 6. $\begin{array}{r} 8324 \\ -557 \\ \hline 7767 \end{array}$ | 7. $\begin{array}{r} 7832 \\ -3265 \\ \hline 4567 \end{array}$ | 8. $\begin{array}{r} 5125 \\ -1234 \\ \hline 3891 \end{array}$ | 9. $\begin{array}{r} 56843 \\ -2976 \\ \hline 53867 \end{array}$ | 10. $\begin{array}{r} 9153 \\ -5277 \\ \hline 3876 \end{array}$ |

Bite into a Riddle

Here is a code.

1588	3856	147	1867	257
O	B	C	M	A

Subtract to find the answer to the riddle below.
What has teeth but cannot chew?

$\begin{array}{r} 536 \\ -279 \\ \hline 257 \end{array}$	$\begin{array}{r} 345 \\ -198 \\ \hline 147 \end{array}$	$\begin{array}{r} 2581 \\ -993 \\ \hline 1588 \end{array}$	$\begin{array}{r} 3824 \\ -1957 \\ \hline 1867 \end{array}$	$\begin{array}{r} 8135 \\ -5279 \\ \hline 2856 \end{array}$
A	C	O	M	B

100 100 100 100 100

Subtraction, Regrouping with Zeros

There are 3000 shirts in the school store.
1846 shirts have the school name on them.
How many shirts do not have the school name on them?



Subtract 1846 from 3000.

Regroup 300 tens 0 ones
as 299 tens 10 ones.

$$\begin{array}{r} 29910 \\ - 1846 \\ \hline \end{array}$$

Subtract.

$$\begin{array}{r} 29910 \\ - 1846 \\ \hline 1154 \end{array}$$

1154 shirts do not have the school name on them.

Subtract.

- | | | | | |
|---|---|---|---|--|
| 1. $\begin{array}{r} 2048 \\ - 894 \\ \hline 1154 \end{array}$ | 2. $\begin{array}{r} 5006 \\ - 2739 \\ \hline 2267 \end{array}$ | 3. $\begin{array}{r} 6000 \\ - 2564 \\ \hline 3436 \end{array}$ | 4. $\begin{array}{r} 3080 \\ - 1863 \\ \hline 1217 \end{array}$ | 5. $\begin{array}{r} 7006 \\ - 2237 \\ \hline 4769 \end{array}$ |
| 6. $\begin{array}{r} 4302 \\ - 2346 \\ \hline 1956 \end{array}$ | 7. $\begin{array}{r} \$8006 \\ - 4372 \\ \hline \$3634 \end{array}$ | 8. $\begin{array}{r} \$9530 \\ - 3649 \\ \hline \$5881 \end{array}$ | 9. $\begin{array}{r} 5007 \\ - 3219 \\ \hline 1788 \end{array}$ | 10. $\begin{array}{r} 8004 \\ - 2456 \\ \hline 5548 \end{array}$ |

11. The school store had 2000 book covers. 1212 have been sold. How many book covers are left?
12. The school store had 5030 erasers. 1253 have been sold. How many erasers are left?

$$\begin{array}{r} 788 \\ \hline \end{array}$$

$$\begin{array}{r} 3777 \\ \hline \end{array}$$

Subtract.

- | | | |
|---|---|---|
| 13. $\begin{array}{r} 760 \\ - 650 \\ \hline 110 \end{array}$ | 14. $\begin{array}{r} 500 \\ - 389 \\ \hline 111 \end{array}$ | 15. $\begin{array}{r} 406 \\ - 294 \\ \hline 112 \end{array}$ |
| 16. $\begin{array}{r} 800 \\ - 687 \\ \hline 113 \end{array}$ | 17. $\begin{array}{r} 507 \\ - 393 \\ \hline 114 \end{array}$ | 18. $\begin{array}{r} 900 \\ - 785 \\ \hline 115 \end{array}$ |

What do you notice about the differences?

The answers increase by one.

966 788 1154 1956

Using Addition to Check Subtraction

Subtract and check.

$$\begin{array}{r} 29910 \\ - 1846 \\ \hline 1761 \end{array} \quad \text{Add.} \quad \begin{array}{r} 1264 \\ + 1761 \\ \hline 3025 \end{array}$$

Subtract. Add to check.

- | | | |
|--|--|--|
| 1. $\begin{array}{r} 37 \\ - 25 \\ \hline 12 \end{array} \quad \begin{array}{r} 25 \\ + 12 \\ \hline 37 \end{array}$ | 2. $\begin{array}{r} 683 \\ - 405 \\ \hline 278 \end{array} \quad \begin{array}{r} 405 \\ + 278 \\ \hline 683 \end{array}$ | 3. $\begin{array}{r} 853 \\ - 384 \\ \hline 469 \end{array} \quad \begin{array}{r} 384 \\ + 469 \\ \hline 853 \end{array}$ |
| 4. $\begin{array}{r} \$4639 \\ - 2752 \\ \hline \$1887 \end{array} \quad \begin{array}{r} 2752 \\ + 1887 \\ \hline 4639 \end{array}$ | 5. $\begin{array}{r} 5321 \\ - 857 \\ \hline 4464 \end{array} \quad \begin{array}{r} 857 \\ + 4464 \\ \hline 5321 \end{array}$ | 6. $\begin{array}{r} 1700 \\ - 539 \\ \hline 1161 \end{array} \quad \begin{array}{r} 539 \\ + 1161 \\ \hline 1700 \end{array}$ |

Solve. Check by adding.

7. School supplies cost \$6.93. Jon Paul pays with a \$10 bill. How much change does he get?
8. Marie buys \$9.56 in art supplies. She pays with \$20.00. How much change does she get?

$$\begin{array}{r} \$3.07 \\ \hline \end{array}$$

$$\begin{array}{r} \$10.44 \\ \hline \end{array}$$

Subtract across and down. Then subtract to find the magic difference in the corner.

845	478	267
269	81	188
576	387	179

976	582	344
441	154	287
535	428	117

12 1887 307 1161

Polygons and Circles

A polygon is made up of line segments. Here are some polygons.



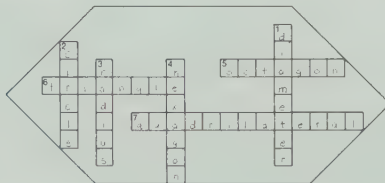
A circle is not made up of line segments.
A circle is not a polygon.



Write the name of the polygon.

- | | | |
|-------------------|-------------|-------------------|
| 1. quadrilateral | 2. hexagon | 3. pentagon |
| 4. triangle | 5. octagon | 6. quadrilateral |

Cross-Number Hexagon



Across

5. An 8-sided polygon. octagon
6. A 3-sided polygon. triangle
7. What this figure is called. quadrilateral

Down

1. What this line segment is called. diameter
2. A curved path of which all the points are the same distance from a centre point. circle
3. What this line segment is called. radius
4. What this figure is called. hexagon

quadrilateral triangle

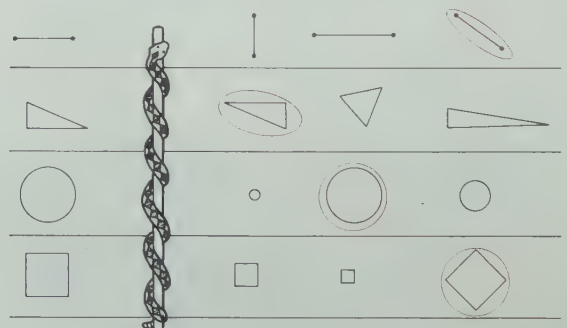
Congruent Shapes

Cut out triangle 2. Place it on triangle 1 so that the A's line up.
Are the triangles exactly the same size and shape?

Figures that are the same size and shape are congruent.



Use tracing paper. In each row, circle the shape that is congruent to the first shape.



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SPM 4 Masters
With pages 94-95

Multiplication, 0 to 5 as Factors

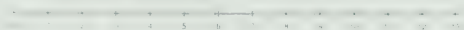
Start at 0 on the number line. Make 4 jumps of 3. Where do you land?



4 jumps of 3 bring you to 12.

We can write $3 + 3 + 3 + 3 = 12$
or $4 \times 3 = 12$

Use the number line to multiply



1. $2 \times 5 = 10$

2. $1 \times 4 = 4$

3. $5 \times 2 = 10$

4. $2 \times 3 = 6$

5. $4 \times 2 = 8$

6. $2 \times 5 = 10$

Multiply. Use a number line if you need to.

7. $2 \times 4 = 8$

8. $2 \times 1 = 2$

9. $1 \times 3 = 3$

10. $3 \times 6 = 18$

11. $4 \times 5 = 20$

12. $8 \times 1 = 8$

13. $6 \times 1 = 6$

14. $5 \times 4 = 20$

15. $3 \times 5 = 15$

16. $5 \times 3 = 15$

17. $2 \times 9 = 18$

18. $6 \times 3 = 18$

Multiplication Triangles

Complete each triangle. Find each missing number by multiplying the two numbers in the boxes below it.

19. 20.

Example



NAME _____

Multiplication, 6 to 9 as Factors

Ellen planted 3 rows of tomato plants. There are 4 plants in each row. How many plants are there?

We can add $4 + 4 + 4 = 12$ 24 plantsWe can multiply $6 \times 4 = 24$

There are 24 plants

Write two addition and two multiplication sentences for each picture

1. $6 \times 4 = 24$

2.

Complete each multiplication table

3	0	1	2	3	4	5	6	7	8	9
6										

4	0	1	2	3	4	5	6	7	8	9
7										

Find each product

5. $6 \times 3 = 18$

6. $7 \times 4 = 28$

7. $6 \times 8 = 48$

8. $1 \times 6 = 6$

9. $7 \times 7 = 49$

10. $2 \times 6 = 12$

Here is a code

N	E	P	T	M	W	F	S	L	G	A	Z
0	30	7	21	18	14	25	63	24	42	6	48

Multiply. You will see the name of a team

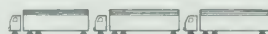
7	6	0	6	4	7	6	7	6	5	7	9
7	4	7	7	7	7	7	7	7	7	7	7

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Multiplication, 0 to 9 as Factors

There are 3 trucks. Each truck has 8 wheels. How many wheels are there?

We can add
 $8 + 8 + 8 = 24$ We can multiply
 $3 \times 8 = 24$

Find each product

1. $8 \times 2 = 16$

2. $6 \times 9 = 54$

3. $9 \times 4 = 36$

4. $5 \times 8 = 40$

5. $9 \times 1 = 9$

6. $8 \times 5 = 40$

7. $4 \times 8 = 32$

8. $0 \times 9 = 0$

9. $9 \times 8 = 72$

10. $8 \times 3 = 24$

11. $9 \times 4 = 36$

12. $5 \times 9 = 45$

13. $6 \times 8 = 48$

14. $1 \times 9 = 9$

15. $8 \times 0 = 0$

Fill in the spaces on the tick-tack-toe board with these numbers

54	56	16	32
45	42	28	
36	27		

TICK-TACK-TOE		
8	7	4
9	5	6
3	1	2

Answers may vary

Now choose any problem below. Write a multiplication fact to answer the question. Put an X on the answer on the tick-tack-toe board. Three X's in a line wins

16. 8 flowerpots. 7 seeds in each pot. How many seeds? $8 \times 7 = 56$
17. 5 rows. 9 plants in each row. How many plants? $5 \times 9 = 45$
18. 8 cars. 4 wheels on each. How many wheels? $8 \times 4 = 32$
19. 8 bicycles. 2 wheels on each. How many wheels? $8 \times 2 = 16$
20. 6 teams. 9 students on each team. How many students? $6 \times 9 = 54$
21. 6 shelves. 7 books on each shelf. How many books? $6 \times 7 = 42$
22. 3 plants. 9 flowers on each plant. How many flowers? $3 \times 9 = 27$
23. 6 floors. 6 apartments on each floor. How many apartments? $6 \times 6 = 36$
24. 4 weeks. 7 days in each week. How many days? $4 \times 7 = 28$

25. 9. 2. 7. 2. 9. 1. 9. 5. 2. 8

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SPM 4 Masters
With pages 106-107

10 and Multiples of 10 as Factors

Multiply $40 \times 3 = 120$ 40 = 4 tens
 $4 \times 3 = 12$
12 = 12 tens

The product of 3 and 40 is 120

Complete

1. $5 \times 3 = 15$

2. $7 \times 3 = 21$

3. $3 \times 6 = 18$

5 \times 3 tens = 15 tens

7 \times 3 tens = 21 tens

3 \times 6 tens = 18 tens

5 \times 30 = 150

7 \times 30 = 210

3 \times 60 = 180

4. $50 \times 2 = 100$

5. $60 \times 2 = 120$

6. $30 \times 6 = 180$

7. $20 \times 3 = 60$

8. $90 \times 3 = 270$

9. $10 \times 5 = 50$

10. $10 \times 4 = 40$

11. $90 \times 2 = 180$

12. $60 \times 9 = 540$

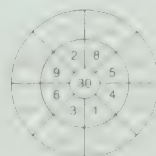
13. $70 \times 3 = 210$

14. $50 \times 4 = 200$

15. $40 \times 8 = 320$

Complete the product wheels. Find each product by multiplying the number in the centre by another number in the wheel

16.



17.



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With pages 132-133

Related Multiplication and Division Facts



18 acorns in 6 groups

$$\begin{array}{r} \times 3 \\ 6 \overline{) 18} \end{array}$$

$$6 \overline{) 18}$$

There are 3 acorns in each group

Write two multiplication facts and two division facts for each array



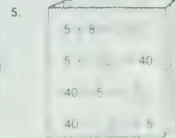
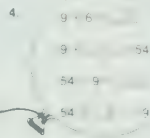
$$2 \times 6 = 12$$

$$12 \div 6 = 2$$

$$12 \div 2 = 6$$



Complete each family of facts



Complete each target. Fill in the blank spaces with the missing products and quotients.

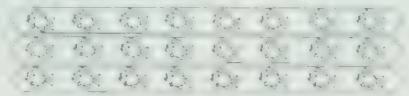


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With pages 130-131

Finding the Number of Groups

Here are 24 fish. Ring groups of 8 fish

There are 3 groups. We write $8 \overline{) 24}$

Ring the groups and answer the division questions

15 dots. Ring groups of 3.
How many 3's in 15? 5

$$15 \div 3 = 5$$

16 dots. Ring groups of 2.
How many 2's in 16? 8

$$16 \div 2 = 8$$

Divide

$$3. 6 \overline{) 24}$$

$$4. 4 \overline{) 20}$$

$$5. 3 \overline{) 21}$$

$$6. 2 \overline{) 18}$$

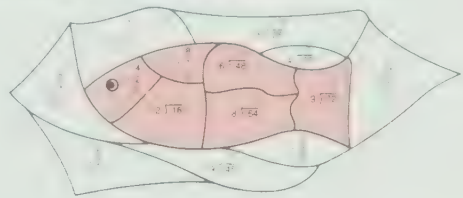
$$7. 5 \overline{) 35}$$

$$8. 4 \overline{) 28}$$

$$9. 6 \overline{) 18}$$

$$10. 4 \overline{) 12}$$

Multiply or divide. Shade each shape that has a product or quotient of 8



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With pages 142-143

Dividing by 2 to 5

Michelle has 200 photographs. She has 4 albums. If she puts the same number in each album, how many photographs are in each?



Divide 200 by 4

$$\begin{array}{r} 4 \overline{) 200} \\ 4 \times 5 = 20 \\ 4 \times 5 \text{ tens} = 20 \text{ tens} \\ 4 \times 50 = 200 \\ 4 \overline{) 200} \end{array}$$

There are 50 photographs in each album.

Complete each pattern.

$$1. 3 \times 5 = 15$$

$$2. 4 \times 2 = 8$$

$$3. 7 \times 3 = 21$$

$$15 \div 5 = 3$$

$$8 \div 2 = 4$$

$$21 \div 3 = 7$$

$$150 \div 5 = 30$$

$$80 \div 2 = 40$$

$$210 \div 3 = 70$$

$$4. 3 \overline{) 9}$$

$$5. 5 \overline{) 25}$$

$$6. 4 \overline{) 16}$$

$$7. 2 \overline{) 10}$$

$$8. 4 \overline{) 8}$$

$$9. 3 \overline{) 24}$$

$$10. 4 \overline{) 32}$$

$$11. 5 \overline{) 15}$$

$$12. 2 \overline{) 160}$$

$$13. 3 \overline{) 60}$$

$$14. 5 \overline{) 150}$$

$$15. 4 \overline{) 120}$$

$$16. 3 \overline{) 300}$$

$$17. 2 \overline{) 40}$$

$$18. 5 \overline{) 450}$$

$$19. 4 \overline{) 200}$$

NAME _____

SPM 4 Masters
With pages 142-143

Dividing by 6 to 9

Christopher has 240 record albums. He keeps them on 6 different shelves with the same number of records on each. How many record albums are on each shelf?



$$\begin{array}{r} 40 \\ 6 \overline{) 240} \end{array}$$

There are 40 record albums on each shelf

Divide

$$1. 9 \overline{) 18}$$

$$2. 6 \overline{) 54}$$

$$3. 7 \overline{) 21}$$

$$4. 6 \overline{) 12}$$

$$5. 7 \overline{) 14}$$

$$6. 8 \overline{) 64}$$

$$7. 7 \overline{) 7}$$

$$8. 9 \overline{) 36}$$

$$9. 6 \overline{) 300}$$

$$10. 8 \overline{) 160}$$

$$11. 9 \overline{) 540}$$

$$12. 6 \overline{) 180}$$

$$13. 5 \overline{) 400}$$

$$14. 4 \overline{) 200}$$

$$15. 3 \overline{) 240}$$

$$16. 4 \overline{) 160}$$

Here is a code

| | | | | | | | | |
|----|----|----|----|----|----|----|----|----|
| 30 | 40 | 90 | 60 | 50 | 80 | 20 | 10 | 70 |
| H | O | K | P | I | N | A | M | C |

Divide to find the answer to the riddle.

What do you call a monkey that eats potato chips?

| | | | | | | | | |
|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 6 $\overline{) 120}$ | 7 $\overline{) 190}$ | 8 $\overline{) 240}$ | 9 $\overline{) 450}$ | 1 $\overline{) 400}$ | 6 $\overline{) 180}$ | 4 $\overline{) 200}$ | 3 $\overline{) 150}$ | 5 $\overline{) 300}$ |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Dividing by 2 to 9

Pierre has 60 model cars.
He keeps them on 3 shelves with the
same number on each shelf.
How many model cars are on each shelf?



Think $3 \overline{) 6}$
 $3 \times 2 = 6$
 $3 \times 2 \text{ tens} = 6 \text{ tens}$
 $3 \times 20 = 60$

There are 20 model cars on each shelf.

Divide. $2 \overline{) 10}$

2. $3 \overline{) 21}$

3. $7 \overline{) 42}$

4. $4 \overline{) 16}$

5. $5 \overline{) 15}$

6. $6 \overline{) 30}$

7. $4 \overline{) 20}$

8. $7 \overline{) 56}$

9. $2 \overline{) 180}$

10. $3 \overline{) 270}$

11. $5 \overline{) 200}$

12. $8 \overline{) 400}$

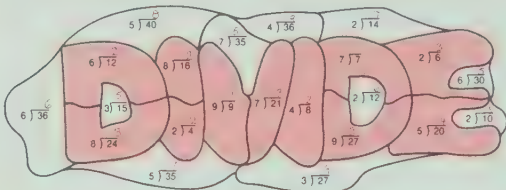
13. $6 \overline{) 540}$

14. $9 \overline{) 270}$

15. $7 \overline{) 280}$

16. $4 \overline{) 320}$

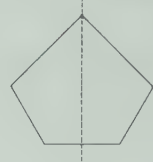
Divide. Shade all quotients of 4 or less.



06 06 9 0

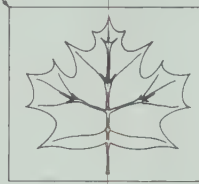
Lines of Symmetry

Cut out the shape. Fold along the dotted line.
Do all the parts on each side of the fold match?
This figure is symmetric.
The fold is called a line of symmetry.

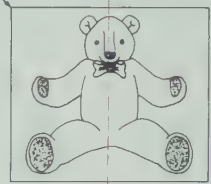


Draw all the lines of symmetry for each shape.
Cut out each picture and fold it to check your lines.

1. cut



2. cut



3.



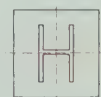
4.



5.



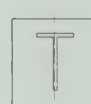
6.



7.



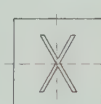
8.



9.

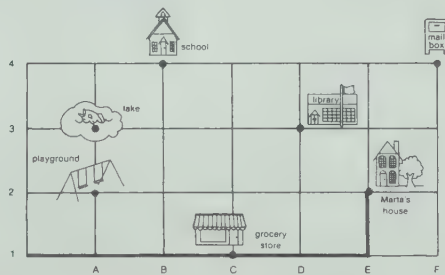


10.



Positions on a Grid

This is a map of Marta's neighborhood.



The letters and numbers help to locate places on the map.
To locate Marta's house we follow the lines to (E,2).

Use a letter and number to name each of these places in Marta's neighborhood.

1. playground (A, 2)

2. library (D, 3)

3. grocery store (C, 1)

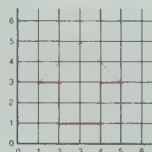
4. school (B, 4)

5. lake (A, 3)

6. mailbox (F, 4)

Draw each point on the grid. Connect the points as you draw them to make a shape.

- (2,1)
(2,3)
(1,3)
(3,5)
(5,3)
(4,3)
(4,1)
(2,1)



(C,1) (A,3) (A,2)

Using Decimals to Show Wholes and Tenths

| Picture | Fraction | Decimal | Word Name |
|---------|-----------------|---------|--------------------|
| | $\frac{4}{10}$ | 0.4 | four-tenths |
| | $1\frac{6}{10}$ | 1.6 | one and six-tenths |

Write a fraction and a decimal to show how much is shaded.

1.



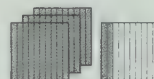
$\frac{3}{10}$ 0.3

2.



$2\frac{1}{10}$ 2.1

3.



$3\frac{2}{10}$ 3.2

4.



$\frac{8}{10}$ 0.8

Complete the table.

| | Words | Fraction | Decimal |
|-----|------------------------|------------------|---------|
| 5. | three and nine-tenths | $3\frac{9}{10}$ | 3.9 |
| 6. | seven-tenths | $\frac{7}{10}$ | 0.7 |
| 7. | one and one-tenth | $1\frac{1}{10}$ | 1.1 |
| 8. | ten and eight-tenths | $10\frac{8}{10}$ | 10.8 |
| 9. | five and four-tenths | $5\frac{4}{10}$ | 5.4 |
| 10. | one and five-tenths | $1\frac{5}{10}$ | 1.5 |
| 11. | eight and three-tenths | $8\frac{3}{10}$ | 8.3 |
| 12. | two-tenths | $\frac{2}{10}$ | 0.2 |

$3\frac{9}{10}$ 3.9 $2\frac{1}{10}$ 2.1 $3\frac{2}{10}$ 3.2 $\frac{8}{10}$ 0.8

Multiplying One-Place Decimals

There are 3.8 L of water in a bucket. How many litres of water are in 6 buckets?

Multiply the tenths.

$$\begin{array}{r} 3.8 \\ \times 6 \\ \hline \end{array}$$

6 × 8 tenths = 48 tenths
or 4 ones 8 tenths

Multiply the ones.

$$\begin{array}{r} 3.8 \\ \times 6 \\ \hline \end{array}$$

6 × 3 ones = 18 ones
18 ones 4 ones = 22 ones

There are 22.8 L of water in 6 buckets.

Multiply.

1. $\begin{array}{r} 4.3 \\ \times 9 \\ \hline \end{array}$

2. $\begin{array}{r} 6.5 \\ \times 6 \\ \hline \end{array}$

3. $\begin{array}{r} 2.7 \\ \times 8 \\ \hline \end{array}$

4. $\begin{array}{r} 3.9 \\ \times 2 \\ \hline \end{array}$

5. $\begin{array}{r} 7.2 \\ \times 7 \\ \hline \end{array}$

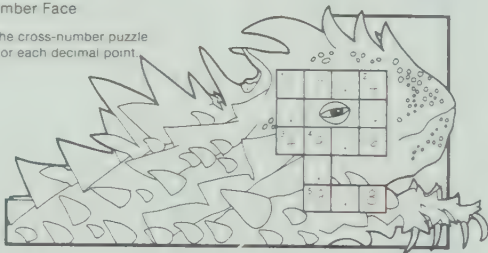
6. $\begin{array}{r} 8.4 \\ \times 4 \\ \hline \end{array}$

7. $\begin{array}{r} 9.6 \\ \times 5 \\ \hline \end{array}$

8. $\begin{array}{r} 4.5 \\ \times 6 \\ \hline \end{array}$

Cross-Number Face

Complete the cross-number puzzle.
Use a box for each decimal point.



Across

1. $\begin{array}{r} 2.9 \\ \times 6 \\ \hline \end{array}$

3. $\begin{array}{r} 6.2 \\ \times 8 \\ \hline \end{array}$

5. $\begin{array}{r} 4.9 \\ \times 2 \\ \hline \end{array}$

Down

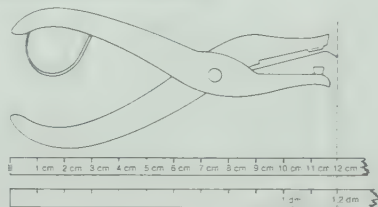
1. $\begin{array}{r} 1.4 \\ \times 1 \\ \hline \end{array}$

2. $\begin{array}{r} 2.3 \\ \times 2 \\ \hline \end{array}$

4. $\begin{array}{r} 3.3 \\ \times 3 \\ \hline \end{array}$

Metres, Decimetres, Centimetres, and Decimals

The hole punch is 12 cm or 1.2 dm long.



The hole punch measures

| cm | dm | m |
|----|-----|------|
| 12 | 1.2 | 0.12 |

Complete the chart

| | cm | dm | m |
|----|-----|-----|------|
| 1. | 182 | | 1.82 |
| 2. | 35 | | |
| 3. | 4 | 0.4 | |
| 4. | | | 0.67 |
| 5. | 329 | | |

| |
|--------------|
| 10 cm = 1 dm |
| 10 dm = 1 m |
| 100 cm = 1 m |

Circle the objects that you would measure in metres.
Put a box around the objects that you would measure in centimetres.



Rounding to Estimate Sums and Products

Laura's car uses 15.4 L of fuel for each trip to the country. Estimate the number of litres used for 8 trips to the country.



Round the number of litres to the nearest whole number.
15.4 → 15

Multiply

$$\begin{array}{r} 15 \\ \times 8 \\ \hline \end{array}$$

The car will use about 120 L of fuel.

Round each addend to the nearest whole number. Add to estimate each sum.

1. $\begin{array}{r} 4.6 \\ 7.3 \\ + 5.5 \\ \hline \end{array}$

2. $\begin{array}{r} 3.9 \\ 6.1 \\ + 9.4 \\ \hline \end{array}$

3. $\begin{array}{r} 9.5 \\ 10.1 \\ + 8.6 \\ \hline \end{array}$

Round to the nearest whole number and multiply

4. $\begin{array}{r} 5.8 \\ \times 3 \\ \hline \end{array}$

5. $\begin{array}{r} 1.9 \\ \times 5 \\ \hline \end{array}$

6. $\begin{array}{r} 36.2 \\ \times 4 \\ \hline \end{array}$

Kangaroo Code

| | | | | | |
|----|----|----|---|----|----|
| 50 | 15 | 49 | 6 | 13 | 18 |
| P | E | Y | L | R | A |

Round each decimal to the nearest whole number.
Add or multiply to answer the riddle.
What is the best year for a kangaroo?

| | | | |
|---|--|--|---|
| $\begin{array}{r} 2.6 \\ - 3.4 \\ \hline \end{array}$ | $\begin{array}{r} 4.9 \\ \times 3 \\ \hline \end{array}$ | $\begin{array}{r} 12.5 \\ + 4.8 \\ \hline \end{array}$ | $\begin{array}{r} 25.1 \\ \times 2 \\ \hline \end{array}$ |
| $\begin{array}{r} 6.6 \\ 7 \\ \hline \end{array}$ | $\begin{array}{r} 8.4 \\ - 7.1 \\ \hline \end{array}$ | $\begin{array}{r} 8.5 \\ \times 2 \\ \hline \end{array}$ | $\begin{array}{r} 10.1 \\ - 2.7 \\ \hline \end{array}$ |

Finding the Perimeter

The three pencils are 8 cm, 10 cm, and 15 cm long.
What is the distance around this triangle?

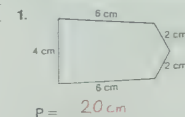


Add

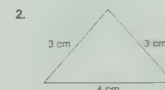
$$\begin{array}{r} 8 \\ 10 \\ + 15 \\ \hline 33 \end{array}$$

The distance around a figure is called the perimeter.
The perimeter of this triangle is 33 cm.

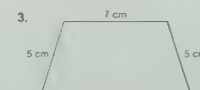
Find the perimeter of each shape



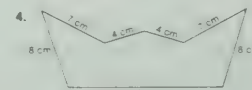
P = 20 cm



P = 10 cm



P = 27 cm

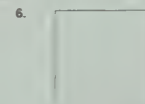


P = 53 cm

Use a ruler to measure the sides of each figure. Find the perimeter.



P = 30 cm



P = 12 cm

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69

Area in Square Centimetres

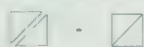
This is a square centimetre.
We write 1 cm^2 .



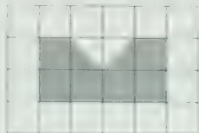
This is one half of a cm^2 .



Two halves of a cm^2 is 1 cm^2 .

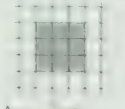


The area of a figure is the number of square centimetres inside the figure.
The area of this figure is 7 cm^2 .



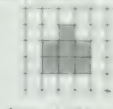
Find the area of each shaded region. Each square represents 1 cm^2 .

1.



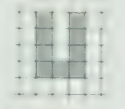
A

2.



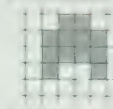
A

3.



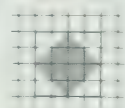
A

4.



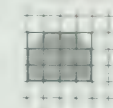
A

5.



A

6.



A

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70

Multiplying Two-Digit Numbers

8 classes from Bowne School are going on a trip.
There are 27 students in each of the 8 classes.
How many students are going on the trip?



Multiply 8 and 27.

Multiply the ones

$$\begin{array}{r} 27 \\ \times 8 \\ \hline \end{array}$$

Regroup 56 ones as
6 ones 5 tens.

Multiply the tens

$$\begin{array}{r} 27 \\ \times 8 \\ \hline \end{array}$$

Regroup 16 tens as
1 hundred 6 tens.

There are 216 students going on the trip.

Multiply

1.

$$\begin{array}{r} 57 \\ \times 3 \\ \hline \end{array}$$

2.

$$\begin{array}{r} 14 \\ \times 5 \\ \hline \end{array}$$

3.

$$\begin{array}{r} 70 \\ \times 4 \\ \hline \end{array}$$

4.

$$\begin{array}{r} 43 \\ \times 6 \\ \hline \end{array}$$

5.

$$\begin{array}{r} 32 \\ \times 8 \\ \hline \end{array}$$

6.

$$\begin{array}{r} 29 \\ \times 6 \\ \hline \end{array}$$

7.

$$\begin{array}{r} 51 \\ \times 3 \\ \hline \end{array}$$

8.

$$\begin{array}{r} 45 \\ \times 9 \\ \hline \end{array}$$

Find the 5 products. Cross out each digit of the products in the strip of digits. When you have finished, all digits should be crossed out.

1 1 2 2 2 2 3 4 5 5 7 8 8 8 9

9.

$$\begin{array}{r} 26 \\ \times 3 \\ \hline \end{array}$$

10.

$$\begin{array}{r} 47 \\ \times 6 \\ \hline \end{array}$$

11.

$$\begin{array}{r} 39 \\ \times 8 \\ \hline \end{array}$$

12.

$$\begin{array}{r} 74 \\ \times 7 \\ \hline \end{array}$$

13.

$$\begin{array}{r} 51 \\ \times 9 \\ \hline \end{array}$$

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Volume in Cubic Centimetres

The volume of a figure is the number of cubic centimetres inside a figure.



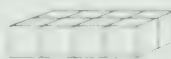
This is a cubic centimetre.
We write 1 cm^3 .



The volume of this figure is 5 cm^3 .

What is the volume of each figure?

1.



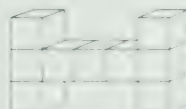
V =

2.



V =

3.



V =

4.



V =

5.



V =

6.



V =

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72

Multiplying Three-Digit Numbers

Multiply 472 and 5.

Multiply the ones

$$\begin{array}{r} 472 \\ \times 5 \\ \hline \end{array}$$

Regroup 10 ones as
1 ten.

Multiply the tens

$$\begin{array}{r} 472 \\ \times 5 \\ \hline \end{array}$$

Regroup 36 tens as
3 hundreds 6 tens.

Multiply the hundreds

$$\begin{array}{r} 472 \\ \times 5 \\ \hline \end{array}$$

Regroup 20 hundreds as
2 thousands.

Multiply

$$\begin{array}{r} 531 \\ \times 4 \\ \hline \end{array}$$

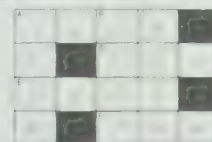
$$\begin{array}{r} 259 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 187 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 346 \\ \times 2 \\ \hline \end{array}$$

Solve the problems

Complete the cross-number puzzle.



Across

A. $\begin{array}{r} 458 \\ \times 8 \\ \hline \end{array}$

D. $\begin{array}{r} 103 \\ \times 2 \\ \hline \end{array}$

Down

A. $\begin{array}{r} 536 \\ \times 6 \\ \hline \end{array}$

B. $\begin{array}{r} 984 \\ \times 4 \\ \hline \end{array}$

E. $\begin{array}{r} 691 \\ \times 3 \\ \hline \end{array}$

F. $\begin{array}{r} 102 \\ \times 2 \\ \hline \end{array}$

C. $\begin{array}{r} 246 \\ \times 2 \\ \hline \end{array}$

Estimating Products

We can estimate the product of 235 and 6.

Round 235 to the nearest ten.

$$\begin{array}{r} 235 \\ - 240 \\ \times 6 \\ \hline 1440 \end{array}$$

Round 235 to the nearest hundred.

$$\begin{array}{r} 235 \\ - 200 \\ \times 6 \\ \hline 1200 \end{array}$$

To the nearest ten, the product is 1440.
To the nearest hundred, the product is 1200.

Round the greater number to the nearest ten.
Then multiply to estimate each product.

$$\begin{array}{r} 1. \quad 67 \quad 70 \\ \times 3 \quad \times 3 \\ \hline 210 \end{array}$$

$$\begin{array}{r} 2. \quad 71 \quad 70 \\ \times 5 \quad \times 5 \\ \hline 350 \end{array}$$

$$\begin{array}{r} 3. \quad 45 \quad 50 \\ \times 6 \quad \times 6 \\ \hline 300 \end{array}$$

Round the greater number to the nearest hundred.
Then multiply to estimate each product.

$$\begin{array}{r} 4. \quad 261 \quad 300 \\ \times 7 \quad \times 7 \\ \hline 2100 \end{array}$$

$$\begin{array}{r} 5. \quad 509 \quad 500 \\ \times 6 \quad \times 6 \\ \hline 3000 \end{array}$$

$$\begin{array}{r} 6. \quad 349 \quad 300 \\ \times 9 \quad \times 9 \\ \hline 2700 \end{array}$$

The numbers in the boxes are the answers to the multiplication problems below. Round the first number in each problem to the nearest hundred and estimate the product. After you have estimated, try to guess which box has the product. Write your estimate in the box. Multiply to check your guesses.

$$\begin{array}{r} 7. \quad 319 \quad 300 \\ \times 6 \quad \times 6 \\ \hline 1914 \quad 1800 \end{array}$$

$$\begin{array}{r} 8. \quad 392 \quad 400 \\ \times 5 \quad \times 5 \\ \hline 1960 \quad 2000 \end{array}$$

| | |
|------|------|
| 1914 | 1960 |
| 1800 | 2000 |
| 1610 | 1470 |
| 1600 | 1500 |

$$\begin{array}{r} 9. \quad 490 \quad 500 \\ \times 3 \quad \times 3 \\ \hline 1470 \quad 1500 \end{array}$$

$$\begin{array}{r} 10. \quad 805 \quad 800 \\ \times 2 \quad \times 2 \\ \hline 1610 \quad 1600 \end{array}$$

0012 012

10, 100, and 1000 as Factors

Multiply 32 and 400.

Think $\begin{array}{r} 32 \\ \times 4 \\ \hline 128 \end{array}$
so, $32 \times 4 \text{ hundreds} = 128 \text{ hundreds}$
 $32 \times 400 = 12,800$

$$\begin{array}{r} 32 \\ \times 400 \\ \hline 12800 \end{array}$$

Complete each pattern.

$$\begin{array}{r} 1. \quad 28 \\ \times 2 \\ \hline 56 \end{array}$$

$$\begin{array}{r} 28 \\ \times 20 \\ \hline 560 \end{array}$$

$$\begin{array}{r} 28 \\ \times 200 \\ \hline 5600 \end{array}$$

$$\begin{array}{r} 2. \quad 41 \\ \times 3 \\ \hline 123 \end{array}$$

$$\begin{array}{r} 41 \\ \times 30 \\ \hline 1230 \end{array}$$

$$\begin{array}{r} 41 \\ \times 300 \\ \hline 12300 \end{array}$$

Multiply.

$$\begin{array}{r} 3. \quad 17 \\ \times 20 \\ \hline 340 \end{array}$$

$$\begin{array}{r} 4. \quad 37 \\ \times 30 \\ \hline 1110 \end{array}$$

$$\begin{array}{r} 5. \quad 56 \\ \times 60 \\ \hline 3360 \end{array}$$

$$\begin{array}{r} 6. \quad 72 \\ \times 80 \\ \hline 5760 \end{array}$$

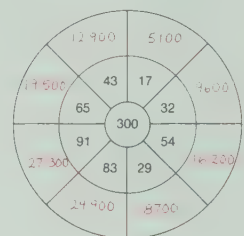
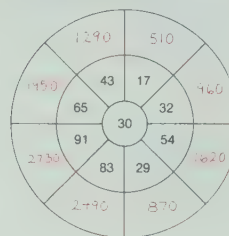
$$\begin{array}{r} 7. \quad 43 \\ \times 500 \\ \hline 21500 \end{array}$$

$$\begin{array}{r} 8. \quad 12 \\ \times 400 \\ \hline 4800 \end{array}$$

$$\begin{array}{r} 9. \quad 24 \\ \times 700 \\ \hline 16800 \end{array}$$

$$\begin{array}{r} 10. \quad 69 \\ \times 100 \\ \hline 6900 \end{array}$$

Multiply each number by the number in the centre. Write the answers in the outer ring.



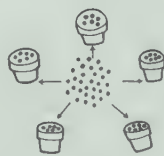
0095 095 95 005 12 012 012

Using Multiplication to Divide

Marge plants 30 seeds in 5 flowerpots.
She plants the same number in each pot.
How many seeds are in each pot?

Divide 30 by 5.

$$\begin{array}{r} 5 \overline{)30} \\ 5 \times 6 = 30 \end{array}$$



There are 6 seeds in each pot.

Complete the multiplication facts. Then divide.

$$\begin{array}{r} 1. \quad 9 \times \underline{\quad} = 36 \\ 9 \overline{)36} \end{array}$$

$$\begin{array}{r} 2. \quad 6 \times \underline{\quad} = 42 \\ 6 \overline{)42} \end{array}$$

$$\begin{array}{r} 3. \quad 4 \times \underline{\quad} = 20 \\ 4 \overline{)20} \end{array}$$

$$\begin{array}{r} 4. \quad 5 \times \underline{\quad} = 45 \\ 5 \overline{)45} \end{array}$$

$$\begin{array}{r} 5. \quad 9 \times \underline{\quad} = 72 \\ 9 \overline{)72} \end{array}$$

$$\begin{array}{r} 6. \quad 8 \times \underline{\quad} = 56 \\ 8 \overline{)56} \end{array}$$

Here is a code.

| | | | | | | | |
|------|---|------|---|------|------|---|------|
| 6 R1 | 9 | 2 R3 | 7 | 5 R1 | 3 R1 | 2 | 4 R4 |
| I | E | H | L | R | S | T | O |

Divide or multiply to complete the riddle.
The pony was quiet because he was a

| | | | | | |
|--------------------|--------------------|--------------------|-----------------------------------|-----------------------------------|--------------------|
| 4 $\overline{)28}$ | 8 $\overline{)49}$ | 9 $\overline{)18}$ | 9 $\times \underline{\quad} = 18$ | 4 $\times \underline{\quad} = 28$ | 3 $\overline{)27}$ |
| 7 | 6 R1 | 2 | 2 | 7 | 9 |
| L | I | T | T | L | E |

| | | | | |
|--------------------|--------------------|--------------------|-------------------|-----------------------------------|
| 6 $\overline{)15}$ | 5 $\overline{)24}$ | 7 $\overline{)36}$ | 2 $\overline{)7}$ | 3 $\times \underline{\quad} = 27$ |
| 2 R3 | 4 R4 | 5 R1 | 3 R1 | 9 |
| H | O | R | S | E |

0012 012

Sharing Hundreds, Tens, and Ones

Divide 693 by 3.

Share the hundreds.

$$\begin{array}{r} 200 \\ 3 \overline{)693} \\ \underline{600} \\ 93 \end{array}$$

Think $3 \times 2 = 6$
 $3 \times 2 \text{ hundreds} = 6 \text{ hundreds}$
 $93 \div 3 = 30 = 90$
Still to share

Share the tens.

$$\begin{array}{r} 30 \\ 3 \overline{)693} \\ \underline{600} \\ 93 \end{array}$$

Think $3 \times 3 = 9$
 $3 \times 3 \text{ tens} = 9 \text{ tens}$
 $93 \div 3 = 30 = 90$
Still to share

Share the ones.

$$\begin{array}{r} 1 \\ 3 \overline{)693} \\ \underline{600} \\ 93 \\ \underline{90} \\ 3 \\ \underline{3} \\ 0 \end{array}$$

Add

When 693 is divided by 3, the quotient is 231.

$$\begin{array}{r} 211 \\ 3 \overline{)693} \\ \underline{600} \\ 93 \\ \underline{90} \\ 3 \\ \underline{3} \\ 0 \end{array}$$

$$\begin{array}{r} 121 \\ 2 \overline{)246} \\ \underline{200} \\ 46 \\ \underline{40} \\ 6 \\ \underline{6} \\ 0 \end{array}$$

$$\begin{array}{r} 312 \\ 3 \overline{)936} \\ \underline{900} \\ 36 \\ \underline{30} \\ 6 \\ \underline{6} \\ 0 \end{array}$$

$$\begin{array}{r} 423 \\ 4 \overline{)1692} \\ \underline{1600} \\ 92 \\ \underline{80} \\ 12 \\ \underline{12} \\ 0 \end{array}$$

What Is the Mystery Digit?

Find the 5 quotients. Cross out each digit in the strip of digits.
When you have finished, only the mystery digit will be left.

1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0

$$9. \quad 4 \overline{)444}$$

$$10. \quad 3 \overline{)369}$$

$$11. \quad 2 \overline{)422}$$

$$12. \quad 3 \overline{)993}$$

$$13. \quad 4 \overline{)884}$$

112 011

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Regrouping Tens

Divide 60 by 4

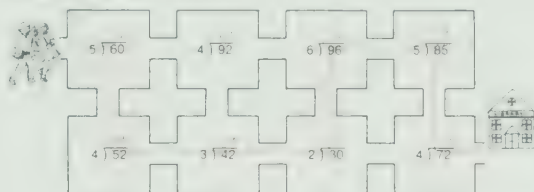
| | | |
|--|---|--|
| <p>Share the tens</p> $\begin{array}{r} 10 \\ 4 \overline{)60} \\ \underline{40} \\ 20 \\ \underline{20} \\ 0 \end{array}$ <p>Still to share
Regroup if tens 0 ones
as 20 ones</p> | <p>Share the ones</p> $\begin{array}{r} 5 \\ 4 \overline{)60} \\ \underline{40} \\ 20 \\ \underline{20} \\ 0 \end{array}$ | <p>Add to get the quotient</p> $\begin{array}{r} 5 \\ + 10 \\ \hline 15 \end{array}$ |
|--|---|--|

When 60 is divided by 4, the quotient is 15

Divide

| | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. $5 \overline{)70}$ | 2. $3 \overline{)81}$ | 3. $2 \overline{)52}$ | 4. $4 \overline{)96}$ |
| 5. $6 \overline{)96}$ | 6. $7 \overline{)84}$ | 7. $8 \overline{)96}$ | 8. $3 \overline{)57}$ |

Divide. Then follow the quotients in order from 12 to 18 to find the path the children take to the library.



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Regrouping Hundreds

Divide 305 by 5

| | | |
|---|--|---|
| <p>Share the hundreds</p> $\begin{array}{r} 5 \overline{)305} \\ \underline{300} \\ 5 \end{array}$ <p>3 < 5, so regroup
3 hundreds 0 tens as
30 tens</p> | <p>Share the tens</p> $\begin{array}{r} 60 \\ 5 \overline{)305} \\ \underline{300} \\ 5 \end{array}$ <p>still to share</p> | <p>Share the ones</p> $\begin{array}{r} 1 \text{ Add} \\ 5 \overline{)305} \\ \underline{300} \\ 5 \\ \underline{5} \\ 0 \end{array}$ |
|---|--|---|

When 305 is divided by 5, the quotient is 61

Match the hundreds, tens, and ones with the equivalent tens and ones.

- | | |
|-----------------------------|----------------|
| 1. 3 hundreds 6 tens 4 ones | 75 tens 2 ones |
| 2. 7 hundreds 5 tens 2 ones | 43 tens 3 ones |
| 3. 2 hundreds 8 tens 1 one | 34 tens 6 ones |
| 4. 4 hundreds 3 tens 3 ones | 36 tens 4 ones |
| 5. 3 hundreds 4 tens 6 ones | 28 tens 1 one |

Divide

| | | | |
|-------------------------|-------------------------|-------------------------|-------------------------|
| 6. $2 \overline{)184}$ | 7. $3 \overline{)219}$ | 8. $4 \overline{)208}$ | 9. $6 \overline{)306}$ |
| 10. $6 \overline{)426}$ | 11. $7 \overline{)147}$ | 12. $3 \overline{)273}$ | 13. $4 \overline{)164}$ |

S. 100 8 100 100

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Finding an Average

Kevin's grades on his math tests are 95, 82, 79, and 92.
Find the average of the 4 tests.

| | |
|--|--|
| <p>Add the 4 test scores</p> $\begin{array}{r} 95 \\ 82 \\ 79 \\ + 92 \\ \hline 348 \end{array}$ | <p>Divide the total by the number of tests</p> $\begin{array}{r} 7 \overline{)348} \\ \underline{70} \\ 180 \\ \underline{140} \\ 40 \\ \underline{40} \\ 0 \end{array}$ |
|--|--|

Kevin's average is 87

Find the average

1. The temperature on 3 days was 24° C, 20° C, and 25° C

Add

$$\begin{array}{r} 24 \\ 20 \\ + 25 \\ \hline 69 \end{array}$$

average temperature 23° C

2. Prices for four gifts are \$15, \$26, \$35, and \$40

Add

$$\begin{array}{r} \$15 \\ \$26 \\ \$35 \\ + \$40 \\ \hline \$116 \end{array}$$

average price \$29

Divide to find the average

3. 235 students ride to school on 5 buses

$$\begin{array}{r} 47 \\ \hline \end{array}$$

4. 245 books on 7 shelves

$$\begin{array}{r} 35 \\ \hline \end{array}$$

5. 96 students in 3 classes

$$\begin{array}{r} 32 \\ \hline \end{array}$$

6. 116 stamps on 4 pages

$$\begin{array}{r} 29 \\ \hline \end{array}$$

NAME

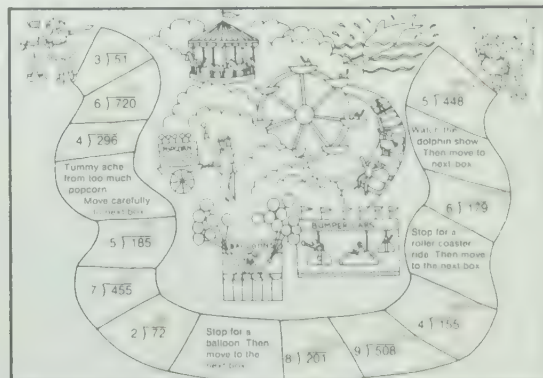
SPM 4 Masters
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Division Practice

Divide 273 by 6

| | | |
|---|---|--|
| <p>Share the hundreds</p> $\begin{array}{r} 6 \overline{)273} \\ \underline{12} \\ 15 \end{array}$ <p>2 < 6, so regroup
2 hundreds 7 tens as
27 tens</p> | <p>Share the tens</p> $\begin{array}{r} 4 \text{ Think } 6 \times 4 = 24 \\ 6 \overline{)273} \\ \underline{240} \\ 33 \end{array}$ <p>Regroup the 3 tens 3 ones
as 33 ones</p> | <p>Share the ones</p> $\begin{array}{r} 45 \text{ R } 3 \\ 6 \overline{)273} \\ \underline{240} \\ 33 \\ \underline{30} \\ 3 \end{array}$ <p>Write the remainder</p> |
|---|---|--|

Travel the path of the amusement park by solving the problems in order from entrance to exit.



Telling Time to the Minute

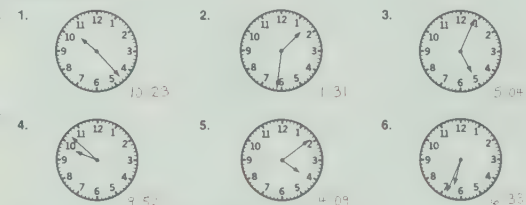
At what time does the next show start?



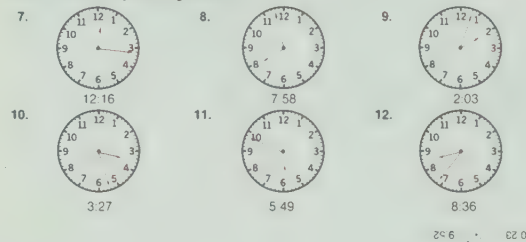
The long hand is the minute hand.
The long hand shows 41 min.

The next show starts at 3:41

What time is it?



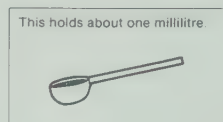
Show each time by drawing the hands



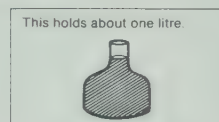
The short hand is the hour hand.
The short hand shows that it is past 3.

Capacity in Millilitres and Litres

Capacity is measured in millilitres (mL) and litres (L).



This holds about one millilitre.



This holds about one litre.

1000 millilitres equal 1 litre
1000 mL = 1 L

Circle the best estimate for the capacity of each.

- | | |
|--|--------------------------------------|
| 1. the gas tank of a car
50 mL (50 L) | 2. a medicine dropper
(2 mL) 2 L |
| 3. a container of juice
2 mL (2L) | 4. a walnut shell
(5 mL) 5 L |
| 5. a drop of rain
1 mL (1 L) | 6. a bucket of water
16 mL (16 L) |

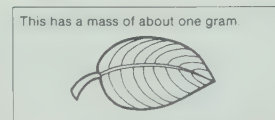
Put an X on objects that hold about 1 L

Put a box around objects that hold about 1 mL

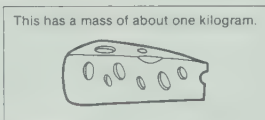


Mass in Grams and Kilograms

Mass is measured in grams (g) and kilograms (kg).



This has a mass of about one gram.



This has a mass of about one kilogram.

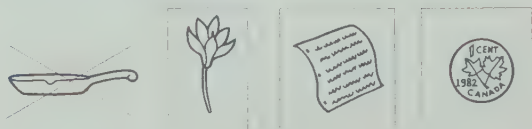
1000 grams equal 1 kilogram
1000 g = 1 kg

Circle the best estimate for the mass of each.

- | | |
|-------------------------------------|---------------------------------|
| 1. a paper clip
1 g 1 kg | 2. a can of juice
1 g 1 kg |
| 3. a vacuum cleaner
10 g (10 kg) | 4. a ball point pen
5 g 5 kg |
| 5. a marble
(2 g) 2 kg | 6. a book
1 g (1 kg) |

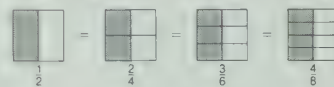
Put an X on objects whose mass is about 1 kg

Put a box around objects whose mass is about 1 g.



Equivalent Fractions

Different fractions can name the same amount.
In each of these pictures the same amount is shaded.



Name equivalent fractions.

- | | |
|----------------------------------|----------------------------------|
| 1. $\frac{2}{3} = \frac{4}{6}$ | 2. $\frac{4}{12} = \frac{8}{12}$ |
| 3. $\frac{3}{10} = \frac{6}{10}$ | 4. $\frac{2}{6} = \frac{4}{6}$ |
| 5. $\frac{2}{10} = \frac{4}{10}$ | 6. $\frac{2}{10} = \frac{4}{10}$ |
| 7. $\frac{3}{10} = \frac{6}{10}$ | 8. $\frac{3}{10} = \frac{6}{10}$ |

NAME _____

SPM 4 Masters
Follows page 30

Finding Information

Use this table of mountain heights for exercises 1 to 5.

| Heights of Some Mountains
(metres) | | | |
|---------------------------------------|------|--------------|------|
| Aconcagua | 6959 | Mt Logan | 5950 |
| Mt Everest | 8848 | Mt Lucania | 5227 |
| Godwin-Austen | 8611 | Matterhorn | 4478 |
| Illampu | 6550 | Mt McKinley | 6194 |
| Kilimanjaro | 5895 | Nanga Parbat | 8123 |

- Which mountain listed is the highest? Mt Everest
- Which mountain listed is the lowest? Matterhorn
- Arrange the mountains in order of height, starting with the highest.
Mt Everest
Godwin Austen
Nanga Parbat
Aconcagua
Illampu
Mt McKinley
Mt Logan
Kilimanjaro
Mt Lucania
Matterhorn
- If you wanted more information about high mountains of the world, where would you look?
encyclopedia, almanac
- Look up one of the mountains in the list. Write a short report about it for your class.

NAME _____

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Follows page 31

Choosing the Information Needed

Use this price list for exercises 1 to 5.

| Green Thumb Price List | | | |
|------------------------|----------------|--------------|--------------|
| cabbage | 99¢ each | strawberries | \$2.59 a box |
| iceberg lettuce | \$1.25 each | carrots | 79¢ a bunch |
| romaine lettuce | 89¢ each | radishes | 47¢ a bunch |
| celery | \$1.12 a bunch | onions | \$2.59 a bag |
| apples | \$2.25 a bag | mushrooms | \$2.29 a box |

- If you buy celery and apples, how much will your bill be?
\$3.37
- Mrs. Newton bought strawberries, celery and carrots. How much did she pay?
\$4.67
- Judy got two kinds of lettuce and a box of mushrooms. How much did they cost?
\$4.43
- How much will onions, cabbage and carrots cost?
3
- How much will celery, strawberries, and mushrooms cost?
\$5.00
- Choose four items from the list and find the total cost.
Answers will vary.

NAME _____

SPM 4 Masters
Follows page 32

Solving Problems in Two or More Steps

- Mr. and Mrs. Billings and their two children are going on a trip. They drove 273 km on Monday and 416 km on Tuesday. They are making a trip of 1200 km. How much farther do they have to drive?
511 km
- The gas tank of their car holds 52 L of gas. When they filled it up, it took 31 L. How much gas was in the tank already?
21 L
- The gas cost \$14.78. They also spent \$3.65 on oil. How much change did they get from \$20?
\$1.57
- At lunch one day they bought the following: 1 hamburger \$1.29, 1 hot dog 95¢, 1 tuna sandwich \$1.50, and 1 cheeseburger \$1.45. They also bought drinks. If the total bill was \$7.79, how much did the drinks cost?
\$2.40
- One day they went to a museum. The tickets cost \$2.50 for adults and 60¢ for children. How much did it cost for all of them?
\$6.20
- In the museum they saw a display of Indian arrowheads. In one case there were 35 arrowheads. In another case there were 18. How many arrowheads were there in all?
53
- Carole bought some souvenirs to take home. She paid \$7.50 for them. She also bought a guide book that cost 95¢. If she had \$15.00 when they started, how much did she have left?
\$6.55
- One day they drove from 8:30 to 12:00. They stopped for an hour and then drove until 3:45. How many hours did they drive in all that day?
6 h 45 min

NAME _____

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Organizing Data

The students in Maria's class had a spelling quiz with ten words in it. This list shows how many words each student spelled correctly.

| | | | | | | |
|----|----|---|---|----|---|---|
| 10 | 9 | 7 | 5 | 10 | 8 | 8 |
| 6 | 10 | 9 | 7 | 9 | 6 | 8 |
| 9 | 8 | 7 | 8 | 8 | 6 | 9 |

Make a tally chart

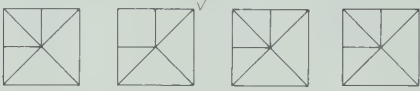
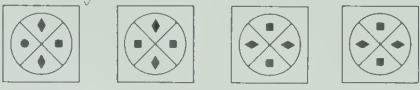
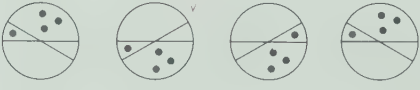



| Number of words spelled right | Number of students |
|-------------------------------|--------------------|
| 10 | 111 |
| 9 | 1111 |
| 8 | 1111 |
| 7 | 1111 |
| 6 | 1111 |
| 5 | 1111 |
| 4 | 1111 |
| 3 | 1111 |
| 2 | 1111 |
| 1 | 1111 |

Use your tally chart for exercises 1 to 5.

- How many students are in the class? _____
- How many spelled exactly 4 words wrong? _____
- How many spelled all the words right? 3
- What score did only one student get? 5
- Do you think that the test was easy or hard? Answers will vary.

How Well Do You See?

In each row, check (✓) the figure that is different.

1. 
2. 
3. 
4. 
5. 
6. 

Solving Problems in Two or More Steps

Solve the problems. Show each step you use.

1. Mr. Bruno had \$463 in his savings account. He withdrew (took out) \$89. Later he deposited (put in) \$102. What is the balance (amount) in his account now?

$$\begin{array}{r} \$476 \\ \text{Step 1. } \$463 \\ - 89 \\ \hline \$374 \\ \text{Step 2. } \$374 \\ + 102 \\ \hline \$476 \end{array}$$

2. The O'Haras had \$659 in their checking account. They wrote cheques for \$50, \$63.50, and \$17. How much is left?

$$\begin{array}{r} \$528.50 \\ \$528.50 \\ - 50.00 \\ \hline \$478.50 \\ - 63.50 \\ \hline \$415.00 \\ - 17.00 \\ \hline \$398.00 \end{array}$$

3. Mrs. O'Hara deposited her pay-cheque of \$135.62 in the account. (See exercise 2.) Then she wrote cheques for \$25 and \$41.75. What is the balance now?

$$\begin{array}{r} \$597.37 \\ \$398.00 \\ + 135.62 \\ \hline \$533.62 \\ - 25.00 \\ \hline \$508.62 \\ - 41.75 \\ \hline \$466.87 \end{array}$$

4. Don gets an allowance of \$5 each week. He spends 40¢ a day at school during lunch time. One week he put \$1.50 in his savings and spent 65¢ for paint for his models. How much did he have left at the end of the week?

$$\begin{array}{r} \$0.85 \text{ or } 85¢ \\ \$5.00 \\ - 4.00 \\ \hline \$1.00 \\ - 1.50 \\ \hline -\$0.50 \\ + 0.65 \\ \hline \$0.15 \end{array}$$

5. Barb bought a flashlight for \$3.98 and batteries for \$1.74. How much change did she get from \$10?

$$\begin{array}{r} \$4.28 \\ \$10.00 \\ - 3.98 \\ \hline \$6.02 \\ - 1.74 \\ \hline \$4.28 \end{array}$$

6. Carl is saving up for a radio that costs \$40. He has \$28.50 in his savings account, and received \$5 for his birthday. How much more does he need?

$$\begin{array}{r} \$6.50 \\ \$40.00 \\ - 28.50 \\ \hline \$11.50 \\ + 5.00 \\ \hline \$16.50 \end{array}$$

Writing Equations



For each exercise, write an equation. Use □.

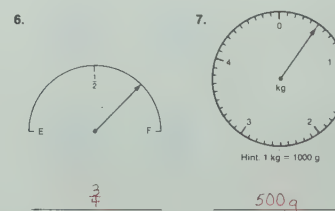
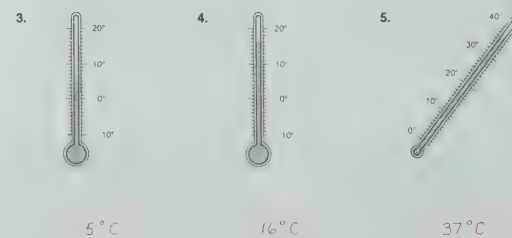
1. Donna spent 49¢ on large beads. How many did she buy?
 $\square \times 7 = 49$
2. Aldo spent \$2.00 on poster paper and 69¢ on a tube of paint. How much did he spend?
 $2.00 + 0.69 = \square$
3. If you bought 9 small beads, how much would they cost?
 $9 \times 3 = \square$
4. Bob spent \$2.39. How much change should he get from \$5.00?
 $5.00 - 2.39 = \square$
5. James bought 16 beads. He is going to share them equally with his sister. How many beads will they each have?
 $16 \div 2 = \square$
6. Grace had 13 small beads. She bought some more. Now she has 19. How many more did she buy?
 $13 + \square = 19$
7. Mark bought 5 stick-ons. Then he bought a tube of green paint. How much did he pay? Write two equations. Use □ and ○.
 $5 \times 4 = \square$ $\square + 69 = \square$

Solve all the equations. Write the answers below.

1. 7 2. \$2.69 3. 27¢ 4. \$2.61
5. 8 6. 6 7. 20¢ 89¢

Reading a Scale

Write a number for the point marked on each scale.



Hint: 1 kg = 1000 g

Choosing the Operation

Circle the operation you would use to solve each problem.

- There are \blacksquare rows of desks. There are \blacktriangle desks in each row. How many desks are there?
+ \times \div -
- There are \blacksquare desks. There are \blacktriangle students sitting at desks. How many desks are empty?
+ \times \div -
- In one desk there are \blacksquare crayons. There are \blacktriangle crayons in another. How many crayons are there in both?
+ \times \div -
- There are \blacksquare crayons in boxes. There are \blacktriangle boxes with the same number of crayons. How many are there in each box?
+ \times \div -
- Mrs. Miller got \blacksquare packages of paper. Each package holds \blacktriangle sheets. How many sheets are there in all?
+ \times \div -
- Adam had \blacktriangle pencils. He got \blacksquare more. How many does he have now?
+ \times \div -
- Jo-Ann is \blacksquare years old. How old was she \blacktriangle years ago?
+ \times \div -
- Marty is \blacktriangle years old. How old will he be \blacksquare years from now?
+ \times \div -
- There are \blacksquare children going on a field trip. Each car can hold \blacktriangle children. How many cars are needed?
+ \times \div -
- One bus can hold \blacksquare passengers. There are \blacktriangle rows of seats. How many seats are in each row?
+ \times \div -

Guess and Test

What are the numbers?

- The sum of 2 numbers is 13. Their product is 40.

- The product of 2 numbers is 12. Their difference is 1.

- The sum of 2 numbers is 26. Their difference is 14.

- The product of 2 numbers is 45. Their difference is 12.

- The difference of 2 numbers is 10. Their sum is 20.

- The quotient of 2 numbers is 5. Their sum is 18.

- The product of 3 numbers is 12. Their sum is 7.

- The sum of 2 numbers is 9.5. Their difference is 3.1.

For each table give the rule. Then complete the table.

| | | | | | | | | |
|---|---|----|----|----|----|----|----|----|
| 6 | 9 | 13 | 20 | 12 | 16 | 35 | 46 | 60 |
| 2 | 5 | 9 | 16 | 8 | 12 | 31 | 42 | 56 |

| | | | | | | | |
|---|----|----|----|---|----|-----|-----|
| 2 | 4 | 5 | 7 | 8 | 11 | 0.9 | 1.2 |
| 6 | 12 | 15 | 21 | | | 45 | |

multiply the number in the first row by _____

Working with Models



The tower is made of bricks. Each brick is numbered.

- How many rows of bricks are there?

- How many bricks are piled on top of a brick numbered 4?

- How many bricks are in the fourth row? Count from the top.

- How many bricks are in the fifth row? Count from the top.

- What is the sum of the numbers on the bricks in the fifth row?

- What is the number on the fourth brick in the fifth row? Count from the left.

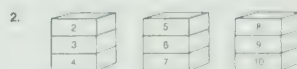
- What is the number on the seventh brick in the fifth row?

- How many bricks are in the tower?

- If the tower had 2 more rows, how many more bricks would it have?

Logical Thinking

- Change arrangement A to arrangement B by turning over pairs of coins next to each other. Do it in the fewest number of moves.



Move one block to another pile so that the sums of all piles are equal.

- A man buys a horse for \$60. He sells it for \$70, buys it back for \$80, and sells it again for \$90. How much did he make or lose?
He makes \$20.

- Complete these addition tables.

| | | | |
|---|---|----|----|
| | | | |
| | 9 | | 10 |
| 7 | | 13 | |
| | | 8 | 11 |

| | | | |
|---|----|----|----|
| | | | |
| | 14 | | 27 |
| 9 | | 22 | |
| | 11 | | 18 |
| 5 | | 15 | |

More Than One Solution

1. How many rectangles have an area of 36 cm^2 ? Use only whole numbers. Draw as many as you can. ⁵

$1 \text{ cm} \times 36 \text{ cm}$, $2 \text{ cm} \times 18 \text{ cm}$, $3 \text{ cm} \times 12 \text{ cm}$, $4 \text{ cm} \times 9 \text{ cm}$, $6 \text{ cm} \times 6 \text{ cm}$

2. How many rectangles can you draw with a perimeter of 36 cm ? Use only whole numbers. ⁹

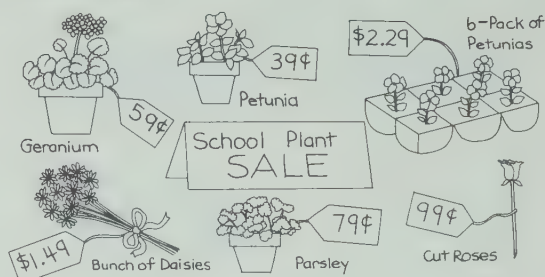
$1 \text{ cm} \times 17 \text{ cm}$, $2 \text{ cm} \times 16 \text{ cm}$, $3 \text{ cm} \times 15 \text{ cm}$, $4 \text{ cm} \times 14 \text{ cm}$,
 $5 \text{ cm} \times 13 \text{ cm}$, $6 \text{ cm} \times 12 \text{ cm}$, $7 \text{ cm} \times 11 \text{ cm}$, $8 \text{ cm} \times 10 \text{ cm}$,
 $9 \text{ cm} \times 9 \text{ cm}$

3. You have three coins in your pocket. None of the coins has a value of more than 25¢. How much money do you have?

20 different amounts possible

16¢, 31¢, 36¢, 45¢,
3¢, 7¢, 12¢, 27¢, 11¢, 21¢, 51¢,
15¢, 20¢, 35¢, 25¢, 55¢,
30¢, 45¢, 60¢, 75¢

Estimating Answers



What did each person buy? Estimate. Be sure to fill in all the blanks.

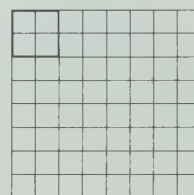
- Peter spent 98¢. He bought a petunia and a geranium.
- Marcia spent \$1.78. She bought parsley and a cut rose.
- Mrs. Townshend spent \$3.08. She bought parsley and 6-pack petunias.
- Mr. Malone spent \$2.08. He bought a geranium and bunch daisies.
- Joe spent \$2.88. He bought a geranium and 6-pack petunias.
- Franco spent \$2.47. He bought a petunia, a geranium, and bunch daisies.
- Emma spent \$1.97. She bought a petunia, a geranium, and a cut rose.
- Pat spent \$3.87. He bought a geranium, a cut rose, and 6-pack petunias.

Does the Statement Make Sense?

Place the decimal point in each number so that the statement makes sense.

- Your math book is about 2000 mm wide. 200.0
- Rosie played baseball for 0.32 h on Saturday. 3.2
- The winner of the first "Indy 500" averaged 12004 km/h. 120.04
- Mark practised his violin for 15 h yesterday. 1.5
- Charlotte made 525 L of punch for her party. 5.25
- Terry spent \$397 for her new ice skates. 39.70
- Ruth's cocker spaniel has a mass of 1600 kg. 16.00
- Jack rides 245 km on the school bus each day. 24.5
- My pen is 0.135 cm long. 13.5
- Four people had pizza for lunch. The total bill was \$125. 12.50
- Margaret drank 25 mL of orange juice for breakfast. 250
- Alex's brother is 160 m tall. 1.60

Planning a Solution



How many different squares are in the 8×8 grid?

Follow these steps to solve. Answers will vary.

- Restate the problem in your own words.
Find the number of squares in the picture
- List all the information you have. grid is 8×8 , 64 small squares, 4 small squares make another square
- Can you simplify the problem? yes
- Can you make a table or a diagram? yes
- Are there different sizes of squares? yes
- Can you develop a pattern? yes
- Make a guess at the answer.
- Try your best idea. 204

| grid size | square size | | | |
|-----------|-------------|-----|-----|-----|
| | 1x1 | 2x2 | 3x3 | 4x4 |
| 1x1 | 1 | | | |
| 2x2 | 4 | 1 | | |
| 3x3 | 9 | 4 | 1 | |
| 4x4 | 16 | 9 | 4 | 1 |

$$64 + 49 + 36 + 25 + 16 + 9 + 4 + 1$$

NAME _____

SPM 4 Masters
With Unit 2

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Number Fun

Solve the problems. Be careful!

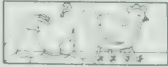
I'm a 3 digit number. All my digits are the same. When you add them the sum is 12. What number am I?

444

A moose can hear a man 6 km away. How far away can 2 moose hear a man?



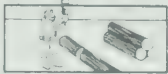
Marge counted 6 cows and chickens. She also counted a total of 20 legs. How many cows are there?



I am thinking of 2 numbers. Their sum is 46. Their difference is 0. What are the numbers?

23, 23

It takes John 6 min to cut a log into 2 pieces. How long will it take him to cut a log into 3 pieces?



I am the smallest 5 digit number you can make from 85020. What number am I?

20058

I am a fraction that is equal to 1. My denominator is 4. What fraction am I?

4/4

I am a 3 digit number with a 6 in the one's place. When rounded to the nearest 100, I am 400. When rounded to the nearest 10, I am 450. What number am I?

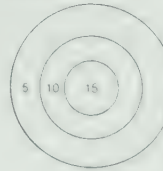
446

NAME _____

SPM 4 Masters
With Unit 1

82

Darts

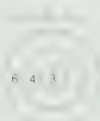


Fred and Sue each threw 3 darts

1. Sue scored 35 points. Where did her darts land?

5, 10, 15

2. Fred scored 30 points. Where did his darts land?



Fred and Sue each threw 5 darts

5. Sue scored 23 points. Where did her darts land?

5, 10, 5, 1, 2

6. Fred scored 22 points. Where did his darts land?

5, 10, 5, 1, 1

9. What was Sue's total score for all the games?

10. What was Fred's total score for all the games?

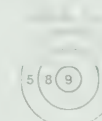


Fred and Sue each threw 3 darts

3. Sue scored 55 points. Where did her darts land?

5, 10, 15

4. Fred scored 60 points. Where did his darts land?



Fred and Sue each threw 5 darts

7. Sue scored 33 points. Where did her darts land?

5, 10, 5, 5, 8

8. Fred scored 36 points. Where did his darts land?

5, 10, 5, 1, 1

NAME _____

SPM 4 Masters
With Unit 2

83

Missing Digits

Put digits in the shapes to make the problems correct. If the shapes are the same in a given problem, then the same digit goes in each shape.

$$\begin{array}{r} \square 9 \\ + 2 \triangle \\ \hline 93 \end{array}$$

$$\begin{array}{r} 3 \square \\ + \triangle 4 \\ \hline 61 \end{array}$$

$$\begin{array}{r} 4 \square \\ + \square \square \\ \hline 100 \end{array}$$

$$\begin{array}{r} 5 \triangle 2 \\ + \square \square \square \\ \hline 960 \end{array}$$

$$\begin{array}{r} \square 7 \triangle \\ + 29 \triangle \\ \hline \triangle 68 \end{array}$$

$$\begin{array}{r} \square 5 \triangle \\ + \triangle 3 \triangle \\ \hline \square 094 \end{array}$$

$$\begin{array}{r} 2 \triangle 3 \square \\ + 25 \square 2 \\ \hline \triangle \square \square 8 \end{array}$$

$$\begin{array}{r} 2 \triangle 84 \\ + \square 7 \triangle 5 \\ \hline 8119 \end{array}$$

$$\begin{array}{r} 43 \triangle \square \\ + \square \triangle \square 9 \\ \hline \triangle 101 \end{array}$$

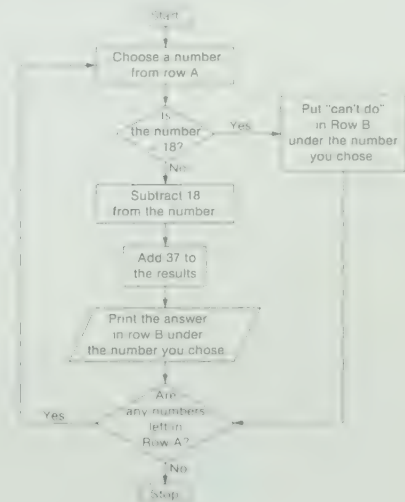
NAME _____

SPM 4 Masters
With Unit 1

84

Reading a Flow Chart

Fill in column B in the chart below by following the flow chart.



| | | | | | | | | |
|-------|----|----|----|----------|----|----|----|-----|
| Row A | 20 | 37 | 75 | 15 | 52 | 18 | 29 | 99 |
| Row B | 39 | 56 | 94 | can't do | 71 | 37 | 48 | 118 |

The Moebius Strip

Cut out strip 1.
Make it into a loop.
Tape the 2 ends together.

Take a red crayon. Draw a line starting at the inside of the loop and ending where you began. Do you stay inside the loop? yes

Take a blue crayon. Draw a line starting at the outside of the loop and ending where you began. Do you stay outside the loop? yes

How many sides are there in the loop? 2

Cut out strip 2.
Twist one end a half turn.
Make it into a loop.
Then, tape the 2 ends together.

Take a red crayon. Draw a line starting at the inside of the loop and ending where you began. Do you stay inside the loop? no

Take a blue crayon. Draw a line starting at the outside of the loop and ending where you began. Do you stay outside the loop? no

How many sides are there in this loop? 1

This loop is called a *Moebius Strip*. It is named after a German mathematician who discovered it in the middle of the 19th century.

Can you think of some practical uses of Moebius Strips?

A record tape sealed in a cartridge with a loop will play twice as long.
A conveyor belt with a loop in it will last longer than a conventional belt.



The Order of Operations

Get to the end number by drawing a path from START.
Go through each number only once.

1. START 3 $\times 2$ $- 4$ END 10
 $\times 3$

2. START 5 $+ 4$ $\times 3$ END 2
 $- 25$

3. START 4 $\times 2$ $+ 2$ END 22
 $+ 5$

4. START 7 $+ 5$ $- 6$ END 20
 $\times 3$

5. START 5 $- 2$ END 33
 $\times 7$

6. START 4 $+ 2$ END 60
 $\times 10$

7. START 2 $\times 3$ END 10
 $+ 4$

8. START 7 $- 4$ END 17
 $\times 3$

These paths are drawn for you, but the operation signs are missing. Put a +, -, or \times sign in front of each number.

The Sieve of Eratosthenes

A Greek mathematician named Eratosthenes discovered a way to identify prime numbers. His method is called the *Sieve of Eratosthenes*.



Use the Sieve of Eratosthenes to find the prime numbers from 1 to 100.

1. Mark an X through 1. It is not a prime number.
2. Mark a slash / through all multiples of 2, except 2.
3. Mark a circle O through all multiples of 3, except 3.
4. Mark a square □ through all multiples of 5, except 5.
5. Mark a triangle Δ through all multiples of 7, except 7.

| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|-----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
| 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |

Remember a prime number has only 2 different factors. itself and 1

All the numbers left are prime numbers.

6. List the prime numbers from 1 to 100 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97

Magical Number Tricks

Here are some number tricks. If you do them correctly, you will have the same number at the end that you started with in the beginning.

Start with number 3. 3
Multiply by 3. 9
Add 5. 14
Multiply by 2. 28
Subtract 10. 18
Divide by 6. 3

Start with number 2. 2
Add 4. 6
Multiply by 8. 48
Divide by 4. 12
Subtract 8. 4
Divide by 2. 2

Pick any number. x
Put a 0 at the end. 10x
Add 4. 10x + 4
Divide by 2. 5x + 2
Subtract 2. 5x
Divide by 5. x

Answers will vary.

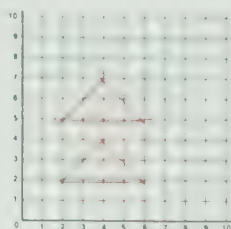
Can you figure out why these number tricks always work?

NAME _____

SPM 4 Masters
With Unit 7

89

Plotting Ordered Pairs



| | A | B | C |
|---------------------|--------|--------|--------|
| Given Ordered Pairs | (2, 5) | (4, 7) | (6, 5) |
| New Ordered Pairs | (2, 2) | (4, 4) | (6, 2) |

1. Plot the points using the given ordered pairs. Connect the points. What shape did you make?

triangle

2. Subtract 3 from the second number of each ordered pair. Write the new ordered pairs in the chart. Plot and connect the new points. What shape did you make?

triangle

3. Are the shapes congruent? yes

4. Is this motion a slide, a flip, or a turn? translation

| | A | B | C |
|---------------------|--------|--------|--------|
| Given Ordered Pairs | (2, 2) | (4, 2) | (4, 4) |
| New Ordered Pairs | (2, 6) | (4, 6) | (4, 8) |

5. Plot these points using the given ordered pairs. Connect the points. What shape did you make?

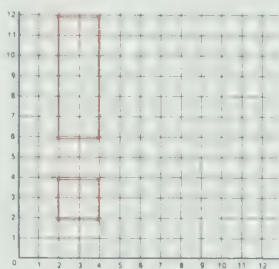
square

6. Multiply the second number of each ordered pair by 3. Write the new ordered pairs in the chart. Plot the new points and connect them. What shape did you make?

rectangle

7. Are the shapes congruent? no

8. What do you think would happen if you multiplied both terms in the ordered pair by 3?

You would have a larger square than the original.

NAME _____

SPM 4 Masters
With Unit 8

90

Addition Puzzle

Complete the puzzle by adding the two decimals in the circles whose arrows point to the same empty circle. Remember to line up the decimal points.



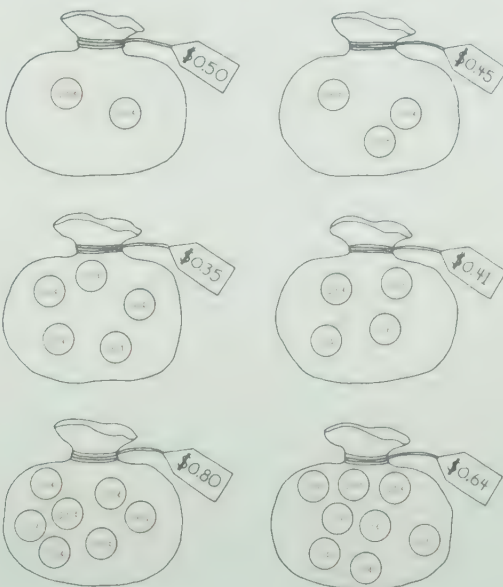
NAME _____

SPM 4 Masters
With Unit 9

91

Bags of Money

Each bag of money is worth the amount shown. Write the value of each coin on the coin. To make it more fun, the coins were drawn the same size.



NAME _____

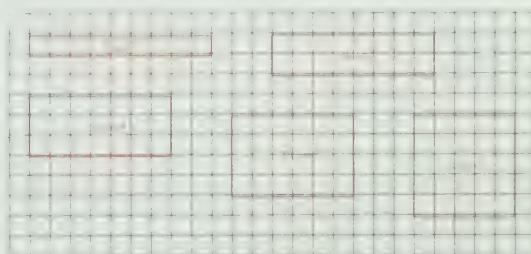
SPM 4 Masters
With Unit 9

92

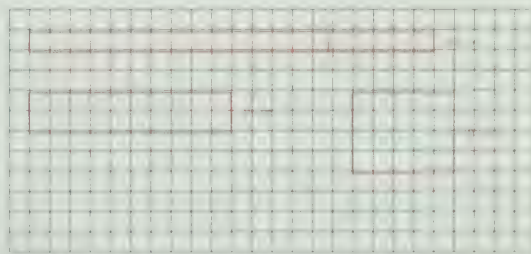
Perimeter and Area

Each square represents 1 square centimetre.

Draw 5 rectangles that have a perimeter of 20. Write the area of each figure inside the drawings.



Draw 3 rectangles that have an area of 20. Write the perimeter of each figure next to the drawings.

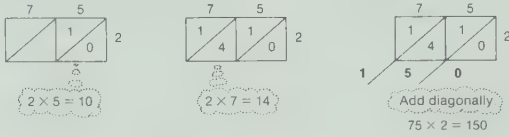


Napier's Bones

A Scottish mathematician named John Napier invented "bones" or "rods" for multiplying.

"Napier's bones" are related to a way of multiplying called lattice multiplication.

Multiply 75 by 2.

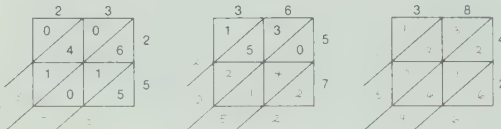


Complete these multiplication problems using the lattice method.

1. $15 \times 3 = 45$ 2. $24 \times 2 = 48$ 3. $47 \times 8 = 376$



4. $23 \times 25 = 575$ 5. $36 \times 57 = 2052$ 6. $38 \times 42 = 1596$



Dividing Short Cuts

If a number is even, then the number is divisible by 2. $2 \overline{) 64}$ 64 is even
divisible by 2

If a number ends in 0, then the number is divisible by 10. $10 \overline{) 730}$
divisible by 10

If the sum of the digits is a number divisible by 3, then the number is divisible by 3. $3 \overline{) 153}$
1 + 5 + 3 = 9
9 is divisible by 3

If a number ends in a 0 or a 5, then the number is divisible by 5. $5 \overline{) 640}$
divisible by 5

Place a check in each column if the numbers are evenly divisible.

| Numbers | 2 | 3 | 5 | 10 |
|------------|---|---|---|----|
| 1. 78 | ✓ | | | |
| 2. 94 | ✓ | | | |
| 3. 875 | | | ✓ | |
| 4. 321 | | | | |
| 5. 4320 | ✓ | | ✓ | ✓ |
| 6. 9972 | ✓ | ✓ | | |
| 7. 7438 | ✓ | | | |
| 8. 97 435 | | | | |
| 9. 84 392 | ✓ | | | |
| 10. 65 430 | ✓ | | | ✓ |

Time Zones



Canada is divided into 6 standard time zones. Each zone uses a time one hour different from its neighboring zones (except for Newfoundland).

A traveller going west subtracts 1 hour each time he crosses a time zone.

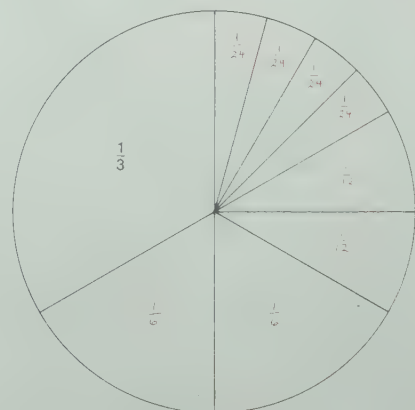
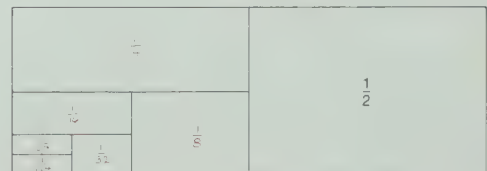
A traveller going east adds 1 hour each time he crosses a time zone.

Solve

- If it is 8 p.m. in Ottawa, what time is it in Winnipeg? 7 p.m.
- It is 11 a.m. in Vancouver, what time is it in Calgary? 12 noon
- If it is 7:30 a.m. in Goose Bay, what time is it in Edmonton? 4:30 a.m.
- If it is 10 p.m. in St. John's, what time is it in Goose Bay? 9:30 p.m.
- Mark drove from Calgary to Winnipeg. He left Calgary at 7:30 a.m. He reached Winnipeg 12 h later. What time was it in Winnipeg when he arrived?
8:30 p.m.
- Pat flew from Ottawa to Edmonton. The flight took 6 h. She left Ottawa at 3 p.m. What time was it in Edmonton when she arrived?
7 p.m.

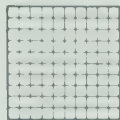


Fraction Sense

Write the fractional value for the sections of each shape.




Numbers to 999

We can show the number one hundred twenty-three this way.

| hundreds | tens | ones | | | | |
|---|---|---|---|---|---|-----|
|  |  |  | | | | |
| 1 hundred | 2 tens | 3 ones | | | | |
| 100 | + | 20 | + | 3 | = | 123 |

Write the numeral for each picture.



1.  _____ ones = _____

2.

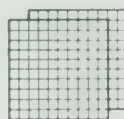


_____ tens = _____



3. _____ hundreds = _____

4.



_____ hundreds _____ tens

_____ ones = _____

Write the standard form for each.



5. eight hundred thirty-six _____

6. forty-five _____

7. three hundred fifty-six _____

8. ninety-seven _____



9. 5 hundreds 2 tens 9 ones _____

10. 7 hundreds 0 tens 8 ones _____

11. 2 hundreds 1 ten 0 ones _____

12. 1 hundred 6 tens 3 ones _____

Find the Mystery Numeral.

| | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|----|-----|-----|
| 128 | 261 | 308 | 555 | 521 | 98 | 162 | 500 | 63 | 60 | 502 | 64 | 108 | 511 |
| 798 | 38 | 593 | 507 | 68 | 856 | 65 | 560 | 8 | 608 | 328 | 8 | 67 | 568 |

Shade all numerals with an 8 in the ones place.

Shade all numerals with a 6 in the tens place.

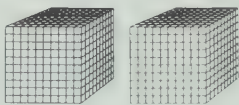
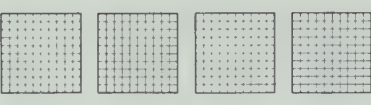


Shade all numerals with a 5 in the hundreds place.

The mystery numeral is _____.



Numbers to 9999

We can show the number two thousand four hundred nineteen this way.


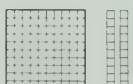

| thousands | hundreds | tens | ones |
|---|---|---|---|
|  |  |  |  |
| 2 thousands | 4 hundreds | 1 ten | 9 ones |

$$2000 + 400 + 10 + 9 = 2419$$

What does the underlined digit mean?

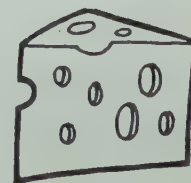
1. 2468 _____ 2. 1234 _____ 3. 51 _____
4. 98 _____ 5. 5876 _____ 6. 75 _____

Write each number in standard form. Follow the path of the answers in order from 7 to 18. Help the mouse find the cheese.

7. $3000 + 100 + 20 + 3$ _____ 8. $5000 + 40 + 2$ _____
9. $500 + 90 + 1$ _____ 10. $400 + 50 + 9$ _____
11. eighty-nine _____ 12.  _____
13.  _____ 14.  _____
15. one thousand twenty _____ 16. four thousand two hundred three _____
17. three hundred twenty _____ 18. two thousand seven _____



| | | | | |
|------|------|-----|------|------|
| 4520 | 559 | 120 | 104 | 1200 |
| 5422 | 951 | 23 | 1020 | 2007 |
| 3123 | 5042 | 89 | 4203 | 320 |
| 5420 | 591 | 459 | 4230 | 2700 |



Comparing and Ordering Numbers

Compare 4319 and 4359.

Compare the digits starting at the left.

| thousands | hundreds | tens | ones |
|-----------|----------|------|------|
| 4 | 3 | 1 | 9 |
| 4 | 3 | 5 | 9 |

↑
same

↑
same

↑
1 ten < 5 tens
so, 4319 < 4359

Write > or < to make each sentence true.



1. 709 _____ 790

2. 839 _____ 841

3. 522 _____ 468

4. 3205 _____ 3502

5. 1647 _____ 1567

6. 7926 _____ 7984

7. 6229 _____ 6292

8. 5060 _____ 5006

9. 2384 _____ 2438

List from greatest to least.



10. 394, 786, 241, 532 _____

11. 4639, 3967, 8543, 1057 _____

12. 5556, 5152, 5565, 4556 _____

List from least to greatest.



13. 604, 7135, 66, 8000 _____

14. 5247, 5269, 5208, 5274 _____

15. 3827, 3892, 3852, 3982 _____

Choose a number from the list below. Fill in the blanks to make true sentences.

| | | | | | |
|-----|-----|-----|-----|-----|-----|
| 135 | 138 | 140 | 153 | 139 | 120 |
|-----|-----|-----|-----|-----|-----|



16. _____ < 137

17. 142 < _____

18. _____ < 135

19. _____ > 140

20. 135 > _____

21. _____ > 120

22. _____ < 130

23. _____ > 150

24. _____ > 139

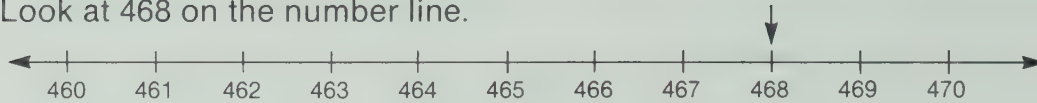


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Rounding to the Nearest 10

Look at 468 on the number line.







468 comes between 460 and 470.

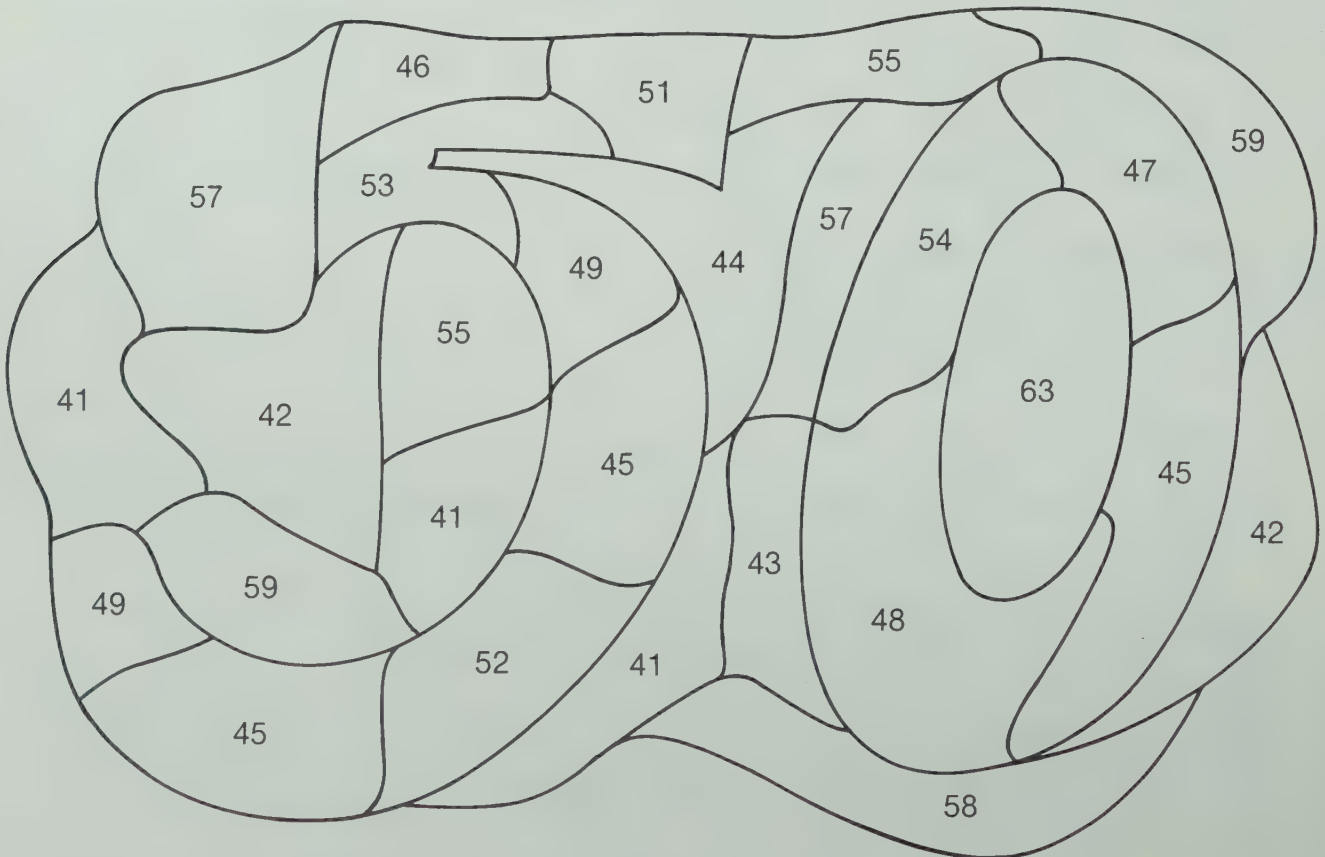
468 is closer to 470.

468 rounded to the nearest ten is 470.

Round to the nearest ten.

- | | | | | |
|---|----------------|----------------|----------------|----------------|
|  | 1. 51 _____ | 2. 67 _____ | 3. 84 _____ | 4. 46 _____ |
|  | 5. 19 _____ | 6. 24 _____ | 7. 381 _____ | 8. 427 _____ |
|  | 9. 549 _____ | 10. 197 _____ | 11. 283 _____ | 12. 598 _____ |
|  | 13. 1456 _____ | 14. 3270 _____ | 15. 9888 _____ | 16. 9623 _____ |

Shade all the numerals that round to 50.



Rounding to the Nearest 100, 1000

Look at 450 on the number line.



450 comes between 400 and 500.

It is the same distance from 400 as it is from 500.

When this happens always round to the higher number.

450 rounded to the nearest hundred is 500.

Round to the nearest hundred.

- ☐ 1. 218 _____ 2. 319 _____ 3. 257 _____ 4. 680 _____
☐ 5. 479 _____ 6. 550 _____ 7. 2736 _____ 8. 1501 _____
☐ 9. 6291 _____ 10. 4089 _____ 11. 3813 _____ 12. 7109 _____

Round to the nearest thousand.

- ☐ 13. 1299 _____ 14. 2500 _____ 15. 3605 _____ 16. 4444 _____
☐ 17. 6066 _____ 18. 7429 _____ 19. 8515 _____ 20. 5500 _____

Here is a code.

| | | | | | | | | |
|-----|-----|-----|-----|------|-----|-----|-----|------|
| 300 | 200 | 500 | 800 | 3400 | 900 | 100 | 400 | 2000 |
| O | D | U | G | F | N | R | I | S |

Round each number to the nearest hundred. What is the message?

| | | | | | | | |
|----|-----|-----|-----|-----|-----|-----|-----|
| 98 | 319 | 450 | 949 | 151 | 380 | 888 | 829 |
| | | | | | | | |
| | | | | | | | |

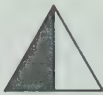


| | |
|-----|------|
| 437 | 1950 |
| | |
| | |

| | | |
|------|-----|-----|
| 3364 | 549 | 853 |
| | | |
| | | |

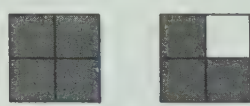

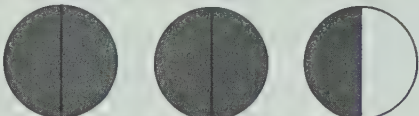
 0009 ☐ 002 ☐ 0039 ☐ 005 ☐ 0001 ☐

Fractions

Fractions Less Than 1

| | Number of
equal parts | Number of
parts shaded | Fraction |
|---|--------------------------|---------------------------|---------------|
|  | 2 | 1 | $\frac{1}{2}$ |
|  | 4 | 3 | $\frac{3}{4}$ |
|  | 5 | 2 | $\frac{2}{5}$ |

Fractions Greater Than 1

| | |
|---|------------------------------|
|  | $\frac{7}{4} = 1\frac{3}{4}$ |
|  | $\frac{8}{3} = 2\frac{2}{3}$ |
|  | $\frac{5}{2} = 2\frac{1}{2}$ |

Write a fraction for the shaded part.

1.  _____2.  _____3.  _____4.  _____5.  _____6.  _____7.  _____8.  _____9.  _____10.  _____11.  _____12.  _____

$\frac{3}{2}$



$3\frac{1}{8} = \frac{25}{8}$



$\frac{4}{2}$



$3\frac{1}{2} = \frac{7}{2}$



Addition, Basic Facts

3 kittens are in a basket.

2 kittens are in another basket.

How many kittens are there in all?

There are 5 kittens in all.



3

+

2

=

5

↑
sum

Add.



1. $4 + 6 = \underline{\quad}$

2. $5 + 3 = \underline{\quad}$

3. $7 + 2 = \underline{\quad}$



4. $6 + 0 = \underline{\quad}$

5. $1 + 3 = \underline{\quad}$

6. $7 + 6 = \underline{\quad}$



7. $5 + 9 = \underline{\quad}$

8. $8 + 9 = \underline{\quad}$

9. $7 + 9 = \underline{\quad}$



10. $\begin{array}{r} 6 \\ + 3 \\ \hline \end{array}$

11. $\begin{array}{r} 7 \\ + 5 \\ \hline \end{array}$

12. $\begin{array}{r} 9 \\ + 0 \\ \hline \end{array}$

13. $\begin{array}{r} 7 \\ + 7 \\ \hline \end{array}$

14. $\begin{array}{r} 6 \\ + 9 \\ \hline \end{array}$

15. $\begin{array}{r} 8 \\ + 8 \\ \hline \end{array}$



16. $\begin{array}{r} 4 \\ + 3 \\ \hline \end{array}$

17. $\begin{array}{r} 9 \\ + 9 \\ \hline \end{array}$

18. $\begin{array}{r} 5 \\ + 5 \\ \hline \end{array}$

19. $\begin{array}{r} 6 \\ + 8 \\ \hline \end{array}$

20. $\begin{array}{r} 9 \\ + 4 \\ \hline \end{array}$

21. $\begin{array}{r} 7 \\ + 1 \\ \hline \end{array}$

Riddle Key

Here is a code.

| | | | | | | |
|----|----|----|----|---|----|----|
| 11 | 13 | 12 | 15 | 9 | 14 | 18 |
| K | O | Y | D | E | N | A |

Add to find the answer to the riddle below.

What kind of a key cannot open a lock?


| |
|---|
| $\begin{array}{r} 9 \\ + 9 \\ \hline \end{array}$ |
| |

| | | | | | |
|---|---|---|---|---|---|
| $\begin{array}{r} 7 \\ + 8 \\ \hline \end{array}$ | $\begin{array}{r} 4 \\ + 9 \\ \hline \end{array}$ | $\begin{array}{r} 6 \\ + 8 \\ \hline \end{array}$ | $\begin{array}{r} 6 \\ + 5 \\ \hline \end{array}$ | $\begin{array}{r} 3 \\ + 6 \\ \hline \end{array}$ | $\begin{array}{r} 5 \\ + 7 \\ \hline \end{array}$ |
| | | | | | |



Adding Three Numbers


Eddie adds 5, 8, and 2 this way.



$$(5 + 8) + 2 = 15$$

$$13 + 2 = 15$$

Marge adds 5, 8, and 2 this way.



$$5 + (8 + 2) = 15$$

$$5 + 10 = 15$$

Add.

1. $(3 + 8) + 6 = \underline{\quad}$

2. $3 + (8 + 6) = \underline{\quad}$

3. $(4 + 0) + 9 = \underline{\quad}$

4. $6 + (3 + 7) = \underline{\quad}$

5. $9 + (8 + 2) = \underline{\quad}$

6. $9 + (7 + 3) = \underline{\quad}$

7. $4 + (2 + 8) = \underline{\quad}$

8. $(6 + 4) + 9 = \underline{\quad}$

9. $(5 + 6) + 7 = \underline{\quad}$

10.
$$\begin{array}{r} 5 \\ 6 \\ + 7 \\ \hline \end{array}$$

11.
$$\begin{array}{r} 3 \\ 3 \\ + 9 \\ \hline \end{array}$$

12.
$$\begin{array}{r} 6 \\ 8 \\ + 7 \\ \hline \end{array}$$

13.
$$\begin{array}{r} 9 \\ 7 \\ + 6 \\ \hline \end{array}$$

14.
$$\begin{array}{r} 8 \\ 9 \\ + 4 \\ \hline \end{array}$$

15.
$$\begin{array}{r} 7 \\ 5 \\ + 8 \\ \hline \end{array}$$

16.
$$\begin{array}{r} 9 \\ 6 \\ + 8 \\ \hline \end{array}$$

17.
$$\begin{array}{r} 2 \\ 8 \\ + 9 \\ \hline \end{array}$$

18.
$$\begin{array}{r} 3 \\ 9 \\ + 4 \\ \hline \end{array}$$

19.
$$\begin{array}{r} 5 \\ 7 \\ + 8 \\ \hline \end{array}$$

20.
$$\begin{array}{r} 6 \\ 8 \\ + 4 \\ \hline \end{array}$$

21.
$$\begin{array}{r} 7 \\ 6 \\ + 5 \\ \hline \end{array}$$

Match the problem in Column A to the problem in Column B with the same sum. It is not necessary to solve the problems.

Column A

Column B

$3 + (6 + 9)$

$(4 + 7) + 6$

$(5 + 3) + 8$

$(9 + 5) + 0$

$4 + (7 + 6)$

$5 + (3 + 8)$

$(6 + 5) + 8$

$(3 + 6) + 9$

$9 + (5 + 0)$

$6 + (5 + 8)$

Addition, No Regrouping

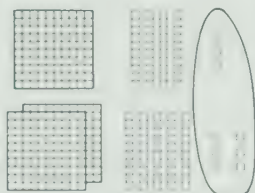
143 flowers are on one shelf.
256 flowers are on another.
How many flowers are there in all?

Add 143 and 256.



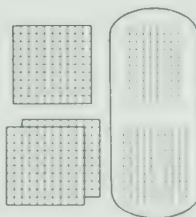
Add the ones.

$$\begin{array}{r} 143 \\ + 256 \\ \hline 9 \end{array}$$



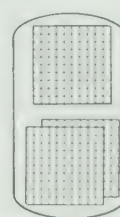
Add the tens.

$$\begin{array}{r} 143 \\ + 256 \\ \hline 99 \end{array}$$



Add the hundreds.

$$\begin{array}{r} 143 \\ + 256 \\ \hline 399 \end{array}$$



There are 399 flowers in all.

Add.

1. $\begin{array}{r} 42 \\ + 31 \\ \hline \end{array}$

2. $\begin{array}{r} 51 \\ + 26 \\ \hline \end{array}$

3. $\begin{array}{r} 36 \\ + 12 \\ \hline \end{array}$

4. $\begin{array}{r} 35 \\ + 24 \\ \hline \end{array}$

5. $\begin{array}{r} 42 \\ + 17 \\ \hline \end{array}$

6. $\begin{array}{r} 126 \\ + 233 \\ \hline \end{array}$

7. $\begin{array}{r} 234 \\ + 123 \\ \hline \end{array}$

8. $\begin{array}{r} 162 \\ + 235 \\ \hline \end{array}$

9. $\begin{array}{r} 465 \\ + 334 \\ \hline \end{array}$

10. $\begin{array}{r} 371 \\ + 528 \\ \hline \end{array}$

What Is the Mystery Digit?

Find the 7 sums. Cross out each digit of the sums in the strip of digits.
When you have finished there will be one digit left.

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 4 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

11. $\begin{array}{r} 246 \\ + 123 \\ \hline \end{array}$

12. $\begin{array}{r} 251 \\ + 346 \\ \hline \end{array}$

13. $\begin{array}{r} 3652 \\ + 1045 \\ \hline \end{array}$



14. $\begin{array}{r} 28 \\ + 61 \\ \hline \end{array}$




15. $\begin{array}{r} 4856 \\ + 2132 \\ \hline \end{array}$


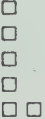


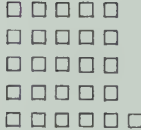
16. $\begin{array}{r} 261 \\ + 328 \\ \hline \end{array}$

17. $\begin{array}{r} 453 \\ + 125 \\ \hline \end{array}$

Regrouping




| | | | |
|----|---|----|---|
| 10 |  | or |  |
| | 1 ten | = | 10 ones |

| | | | | |
|----|---|---|----|---|
| 12 |  |  | or |  |
| | 1 ten | 2 ones | = | 12 ones |



| | | | | | | | |
|----|---|---|----|---|---|----|---|
| 26 |  |  | or |  |  | or |  |
| | 2 tens | 6 ones | = | 1 ten | 16 ones | = | 26 ones |

Write the number for each picture.






1.   or 

1 ten 4 ones = ____ ones


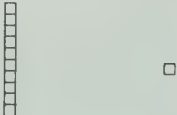
2.  or 

16 ones = ____ ten ____ ones



3.   or 

____ ten ____ ones = ____ ones

4.  or 

____ ones = ____ ten ____ one

Regroup to show more tens.



5. 4 tens 15 ones = ____ tens ____ ones

6. 7 tens 13 ones = ____ tens ____ ones



7. 2 tens 10 ones = ____ tens ____ ones

8. 3 tens 12 ones = ____ tens ____ ones

Addition, Regrouping Ones

18 books are on one shelf.

24 books are on another.

How many books are there in all?

Add 18 and 24.



Add the ones.

$$\begin{array}{r} 1 \\ 18 \\ + 24 \\ \hline 2 \end{array}$$

Regroup 12 ones as 1 ten 2 ones.

Add the tens.

$$\begin{array}{r} 1 \\ 18 \\ + 24 \\ \hline 42 \end{array}$$

There are 42 books in all.

Add.



1. $\begin{array}{r} 36 \\ + 25 \\ \hline \end{array}$

2. $\begin{array}{r} 59 \\ + 14 \\ \hline \end{array}$

3. $\begin{array}{r} 18 \\ + 12 \\ \hline \end{array}$

4. $\begin{array}{r} 14 \\ + 29 \\ \hline \end{array}$

5. $\begin{array}{r} 47 \\ + 19 \\ \hline \end{array}$



6. $\begin{array}{r} 27 \\ + 34 \\ \hline \end{array}$

7. $\begin{array}{r} 35 \\ + 45 \\ \hline \end{array}$

8. $\begin{array}{r} 48 \\ + 43 \\ \hline \end{array}$

9. $\begin{array}{r} 66 \\ + 27 \\ \hline \end{array}$

10. $\begin{array}{r} 39 \\ + 35 \\ \hline \end{array}$

Solve.



11. 17 red pencils.
15 blue pencils.
How many pencils in all?
- _____

12. 25 math books.
19 reading books.
How many books in all?
- _____

Add. Then draw a line through the row where the answers are the same.

| B I N G O | | |
|---|---|---|
| $\begin{array}{r} 46 \\ + 25 \\ \hline \end{array}$ | $\begin{array}{r} 39 \\ + 48 \\ \hline \end{array}$ | $\begin{array}{r} 57 \\ + 14 \\ \hline \end{array}$ |
| $\begin{array}{r} 33 \\ + 38 \\ \hline \end{array}$ | $\begin{array}{r} 58 \\ + 29 \\ \hline \end{array}$ | $\begin{array}{r} 38 \\ + 35 \\ \hline \end{array}$ |
| $\begin{array}{r} 24 \\ + 47 \\ \hline \end{array}$ | $\begin{array}{r} 55 \\ + 35 \\ \hline \end{array}$ | $\begin{array}{r} 42 \\ + 29 \\ \hline \end{array}$ |

Addition, Two Regroupings

123 birds are on a wire.
87 birds are in a tree.
How many birds are there in all?



Add 123 and 87.

Add the ones.

$$\begin{array}{r} 1 \\ 123 \\ + 87 \\ \hline 0 \end{array}$$

Regroup 10 ones as
1 ten 0 ones.

Add the tens.

$$\begin{array}{r} 11 \\ 123 \\ + 87 \\ \hline 10 \end{array}$$

Regroup 11 tens as
1 hundred 1 ten.

Add the hundreds.

$$\begin{array}{r} 11 \\ 123 \\ + 87 \\ \hline 210 \end{array}$$

There are 210 birds in all.

Regroup to show more tens.



1. 35 ones = ____ tens ____ ones

2. 17 ones = ____ tens ____ ones

3. 2 tens 16 ones = ____ tens ____ ones

4. 5 tens 11 ones = ____ tens ____ ones



5. 7 tens 10 ones = ____ tens ____ ones

6. 8 tens 18 ones = ____ tens ____ ones

Regroup to show more hundreds.



7. 15 tens = ____ hundreds ____ tens

8. 23 tens = ____ hundreds ____ tens

9. 1 hundred 10 tens = ____ hundreds ____ tens

10. 2 hundreds 12 tens = ____ hundreds ____ tens

Add.



11. $\begin{array}{r} 876 \\ + 98 \\ \hline \end{array}$

12. $\begin{array}{r} 359 \\ + 451 \\ \hline \end{array}$

13. $\begin{array}{r} 764 \\ + 336 \\ \hline \end{array}$

14. $\begin{array}{r} 107 \\ + 493 \\ \hline \end{array}$



15. $\begin{array}{r} 1243 \\ + 465 \\ \hline \end{array}$

16. $\begin{array}{r} 1648 \\ + 342 \\ \hline \end{array}$

17. $\begin{array}{r} 2951 \\ + 2862 \\ \hline \end{array}$

18. $\begin{array}{r} 3875 \\ + 1518 \\ \hline \end{array}$



Adding Three Numbers

Add 2346, 157, and 3890.

Add the ones.

$$\begin{array}{r} 1 \\ 2346 \\ 157 \\ + 3890 \\ \hline 3 \end{array}$$

Regroup 13 ones
as 1 ten 3 ones.

Add the tens.

$$\begin{array}{r} 11 \\ 2346 \\ 157 \\ + 3890 \\ \hline 93 \end{array}$$

Regroup 19 tens
as 1 hundred
9 tens.

Add the hundreds.

$$\begin{array}{r} 11 \\ 2346 \\ 157 \\ + 3890 \\ \hline 393 \end{array}$$

Regroup 13 hundreds
as 1 thousand
3 hundreds.

Add the thousands.

$$\begin{array}{r} 1 \\ 2346 \\ 157 \\ + 3890 \\ \hline 6393 \end{array}$$

The sum of 2346, 157, and 3890 is 6393.

Add. Then add in the other direction to check.

$$\begin{array}{r} 1. \quad 542 \\ 6873 \\ + 108 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 3462 \\ 1593 \\ + 728 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 1955 \\ 3128 \\ + 4136 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 5374 \\ 276 \\ + 1023 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad \$1538 \\ 3359 \\ + 2107 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad \$1985 \\ 3841 \\ + 2702 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad \$3059 \\ 563 \\ + 1327 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad \$2843 \\ 163 \\ + 2114 \\ \hline \end{array}$$

Solve the problems. Connect the dots from the smallest sum to the largest.

5060
259
+ 2916

3864
1259
+ 3001

4327
2109
+ 834

2792
5736
+ 1053

173
5934
+ 2252

283
357
+ 612

1384
645
+ 515

4635
1305
+ 1111

2816
147
+ 3265

Estimating the Sum

We can round to the nearest ten, hundred, or thousand.

Number of Students in Dover School

| Grade | Number of students | Round to the nearest ten | Round to the nearest hundred | Round to the nearest thousand |
|-------|--------------------|--------------------------|------------------------------|-------------------------------|
| 4 | 1528 | 1530 | 1500 | 2000 |
| 5 | 1281 | 1280 | 1300 | 1000 |
| 6 | 950 | 950 | 1000 | 1000 |

How many students are in grades 4 and 5? To estimate to the nearest hundred, first round each number to the nearest hundred, then add.

1 5 2 8 → 1 5 0 0

+ 1 2 8 1 → 1 3 0 0

2 8 0 0

To the nearest hundred, there are 2800 students in grades 4 and 5.

Round each number to the nearest ten, hundred, and thousand.

•

| | | Nearest ten | Nearest hundred | Nearest thousand |
|----|------|-------------|-----------------|------------------|
| 1. | 1324 | | | |
| 2. | 2561 | | | |
| 3. | 3846 | | | |
| 4. | 4309 | | | |
| 5. | 5952 | | | |

Use the chart at the top of the page to answer these questions.

• •

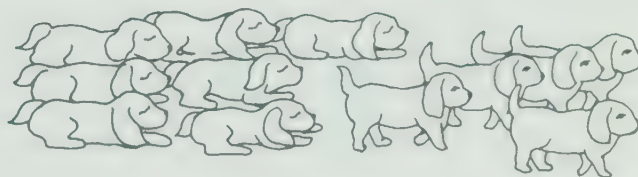
6. To the nearest hundred, how many students in all are in grades 4 and 5?

7. To the nearest hundred, how many students in all are in grades 4, 5, and 6?

8. To the nearest thousand, how many students are in grades 4, 5, and 6?

Subtraction, Basic Facts

There are 12 puppies.
5 puppies are walking away.
How many puppies are left?



There are 7 puppies left.

$$12 - 5 = 7$$

Subtract.

1. $17 - 9 = \underline{\quad}$ 2. $13 - 6 = \underline{\quad}$ 3. $15 - 7 = \underline{\quad}$

4. $9 - 3 = \underline{\quad}$ 5. $11 - 5 = \underline{\quad}$ 6. $10 - 6 = \underline{\quad}$

7. $16 - 8 = \underline{\quad}$ 8. $18 - 9 = \underline{\quad}$ 9. $17 - 8 = \underline{\quad}$

10. $\begin{array}{r} 15 \\ - 8 \\ \hline \end{array}$ 11. $\begin{array}{r} 12 \\ - 6 \\ \hline \end{array}$ 12. $\begin{array}{r} 11 \\ - 8 \\ \hline \end{array}$ 13. $\begin{array}{r} 9 \\ - 2 \\ \hline \end{array}$ 14. $\begin{array}{r} 8 \\ - 5 \\ \hline \end{array}$ 15. $\begin{array}{r} 14 \\ - 8 \\ \hline \end{array}$

16. $\begin{array}{r} 13 \\ - 8 \\ \hline \end{array}$ 17. $\begin{array}{r} 14 \\ - 9 \\ \hline \end{array}$ 18. $\begin{array}{r} 13 \\ - 4 \\ \hline \end{array}$ 19. $\begin{array}{r} 11 \\ - 9 \\ \hline \end{array}$ 20. $\begin{array}{r} 10 \\ - 8 \\ \hline \end{array}$ 21. $\begin{array}{r} 12 \\ - 9 \\ \hline \end{array}$

Solve the problems. Then cross out each digit of the answers in the strip of digits above the row. When you have finished, all the digits should be crossed out.

| | | | | | |
|---|---|---|---|---|---|
| 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|

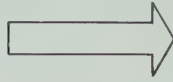
$\begin{array}{r} 10 \\ - 5 \\ \hline \end{array}$ $\begin{array}{r} 15 \\ - 8 \\ \hline \end{array}$ $\begin{array}{r} 14 \\ - 5 \\ \hline \end{array}$ $\begin{array}{r} 12 \\ - 4 \\ \hline \end{array}$ $\begin{array}{r} 13 \\ - 7 \\ \hline \end{array}$ $\begin{array}{r} 11 \\ - 7 \\ \hline \end{array}$

| | | | | | |
|---|---|---|---|---|---|
| 5 | 6 | 7 | 8 | 9 | 9 |
|---|---|---|---|---|---|

$\begin{array}{r} 17 \\ - 9 \\ \hline \end{array}$ $\begin{array}{r} 18 \\ - 9 \\ \hline \end{array}$ $\begin{array}{r} 11 \\ - 4 \\ \hline \end{array}$ $\begin{array}{r} 16 \\ - 7 \\ \hline \end{array}$ $\begin{array}{r} 15 \\ - 9 \\ \hline \end{array}$ $\begin{array}{r} 12 \\ - 7 \\ \hline \end{array}$

Relating Addition and Subtraction

Related Numbers



Family of Facts

$$\begin{aligned} 2 + 3 &= 5 \\ 3 + 2 &= 5 \\ 5 - 2 &= 3 \\ 5 - 3 &= 2 \end{aligned}$$

Complete the related addition and subtraction facts for each picture.



$1 + 6 = \underline{\quad}$

$6 + 1 = \underline{\quad}$

$\underline{\quad} - 1 = 6$

$\underline{\quad} - 6 = 1$

2.



$4 + 5 = \underline{\quad}$

$5 + 4 = \underline{\quad}$

$\underline{\quad} - 5 = 4$

$\underline{\quad} - 4 = 5$



$\underline{\quad} + \underline{\quad} = \underline{\quad}$

$\underline{\quad} + \underline{\quad} = \underline{\quad}$

$\underline{\quad} - \underline{\quad} = \underline{\quad}$

$\underline{\quad} - \underline{\quad} = \underline{\quad}$

4.



$\underline{\quad} + \underline{\quad} = \underline{\quad}$

$\underline{\quad} + \underline{\quad} = \underline{\quad}$

$\underline{\quad} - \underline{\quad} = \underline{\quad}$

$\underline{\quad} - \underline{\quad} = \underline{\quad}$



$\underline{\quad} + \underline{\quad} = \underline{\quad}$

$\underline{\quad} + \underline{\quad} = \underline{\quad}$

$\underline{\quad} - \underline{\quad} = \underline{\quad}$

$\underline{\quad} - \underline{\quad} = \underline{\quad}$

6.



$\underline{\quad} + \underline{\quad} = \underline{\quad}$

$\underline{\quad} + \underline{\quad} = \underline{\quad}$

$\underline{\quad} - \underline{\quad} = \underline{\quad}$

$\underline{\quad} - \underline{\quad} = \underline{\quad}$

Subtraction, No Regrouping

Patricia has 35 balloons.
She gives 14 balloons away.
How many balloons does she have left?



Subtract 14 from 35.

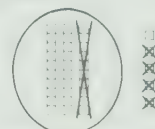
Subtract the ones.

$$\begin{array}{r} 35 \\ - 14 \\ \hline 1 \end{array}$$



Subtract the tens.

$$\begin{array}{r} 35 \\ - 14 \\ \hline 21 \end{array}$$



She has 21 balloons left.

Subtract.

$$\begin{array}{r} 1. \quad 31 \\ - 10 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 44 \\ - 21 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 56 \\ - 25 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 65 \\ - 33 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 54 \\ - 13 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 79 \\ - 36 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 88 \\ - 65 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 99 \\ - 25 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 86 \\ - 34 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 75 \\ - 32 \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 47 \\ - 25 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 51 \\ - 20 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad 26 \\ - 14 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad 35 \\ - 12 \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad 59 \\ - 16 \\ \hline \end{array}$$

A Handy Code



| | | | | |
|----|----|----|----|----|
| 44 | 22 | 13 | 32 | 14 |
| L | K | O | A | C |

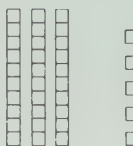
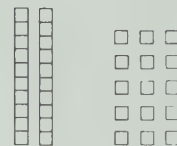
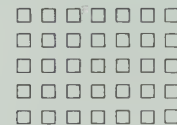
Subtract to find the answer to the riddle below.
What has hands but cannot feel?

| | | | | | |
|---|---|---|--|---|---|
| $\begin{array}{r} 57 \\ - 25 \\ \hline \end{array}$ | $\begin{array}{r} 87 \\ - 73 \\ \hline \end{array}$ | $\begin{array}{r} 66 \\ - 22 \\ \hline \end{array}$ | $\begin{array}{r} 18 \\ - 5 \\ \hline \end{array}$ | $\begin{array}{r} 98 \\ - 84 \\ \hline \end{array}$ | $\begin{array}{r} 37 \\ - 15 \\ \hline \end{array}$ |
| | | | | | |

Regrouping

We can regroup to get more ones.

| | | | |
|----|---|----|--|
| 19 |  | or |  |
| | 1 ten 9 ones | | 19 ones |

| | | | | | |
|----|---|----|---|----|---|
| 35 |  | or |  | or |  |
| | 3 tens 5 ones | | 2 tens 15 ones | | 35 ones |

Write the number under each picture.



1.



_____ ten _____ one = _____ ones

2.



_____ ten = _____ ones

3.



_____ ten _____ ones = _____ ones

4.



_____ ten _____ ones = _____ ones

Regroup to show more ones.



5. 2 tens 3 ones = 1 ten _____ ones

6. 4 tens 2 ones = 3 tens _____ ones

7. 3 tens = 2 tens _____ ones

8. 6 tens 5 ones = 5 tens _____ ones

9. 3 tens 5 ones = 2 tens _____ ones

10. 9 tens 1 one = 8 tens _____ ones



Subtraction, Regrouping Tens

32 birds are in a tree.
18 of them are flying away.
How many birds are left?

Subtract 18 from 32.



Regroup 3 tens 2 ones
as 2 tens 12 ones.
Subtract the ones.

$$\begin{array}{r} 212 \\ 32 \\ - 18 \\ \hline 4 \end{array}$$



Subtract the tens.

$$\begin{array}{r} 212 \\ \times 32 \\ \hline 184 \\ 640 \\ \hline 6784 \end{array}$$



There are 14 birds left.

Subtract.

$$\boxed{\cdot} \quad 1. \quad \begin{array}{r} 48 \\ -19 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 75 \\ - 36 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 81 \\ - 26 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 60 \\ - 32 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 83 \\ - 35 \\ \hline \end{array}$$

$$\begin{array}{r} 70 \\ -46 \\ \hline \end{array}$$

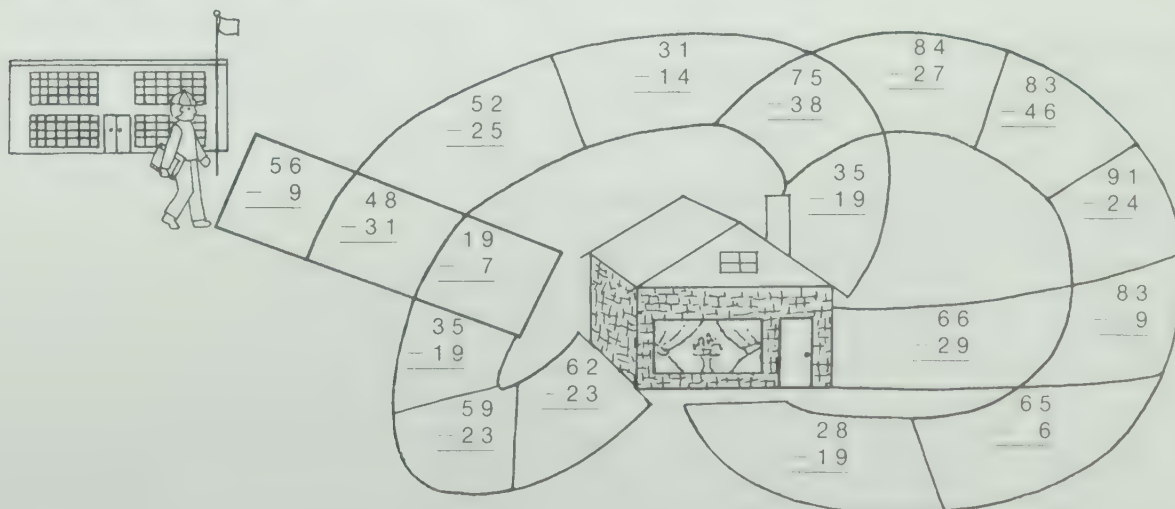
$$\begin{array}{r} 7. \quad 35 \\ - 17 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 43 \\ - 16 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 91 \\ - 48 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 64 \\ - 39 \\ \hline \end{array}$$

Subtract. Mark all answers that have a 7 as either digit. You will see the path to Pierre's house.



Subtraction, Two or More Regroupings

The school store has 2364 notebooks.
1678 are sold during the year.
How many notebooks are left?



Subtract 1678 from 2364.

Regroup 6 tens 4 ones
as 5 tens 14 ones.

Subtract the ones.

$$\begin{array}{r} 5 \ 14 \\ 23\cancel{6}4 \\ -1678 \\ \hline 6 \end{array}$$

Regroup 3 hundreds 5 tens
as 2 hundreds 15 tens.

Subtract the tens.

$$\begin{array}{r} 15 \\ 2\cancel{3}514 \\ -1678 \\ \hline 86 \end{array}$$

Regroup 2 thousands 2 hundreds
as 1 thousand 12 hundreds.

Subtract the hundreds.

$$\begin{array}{r} 12 \\ 1\cancel{2}264 \\ -1678 \\ \hline 686 \end{array}$$

Subtract the thousands.

$$\begin{array}{r} 1 \\ \cancel{2}364 \\ -1678 \\ \hline 686 \end{array}$$

There are 686 notebooks left.

Subtract.

1. $\begin{array}{r} 376 \\ -189 \\ \hline \end{array}$

2. $\begin{array}{r} 487 \\ -89 \\ \hline \end{array}$

3. $\begin{array}{r} 586 \\ -298 \\ \hline \end{array}$

4. $\begin{array}{r} 947 \\ -368 \\ \hline \end{array}$

5. $\begin{array}{r} 783 \\ -295 \\ \hline \end{array}$

6. $\begin{array}{r} 8324 \\ -557 \\ \hline \end{array}$

7. $\begin{array}{r} 7832 \\ -3265 \\ \hline \end{array}$

8. $\begin{array}{r} 5125 \\ -1234 \\ \hline \end{array}$

9. $\begin{array}{r} \$6843 \\ -2976 \\ \hline \end{array}$

10. $\begin{array}{r} \$9153 \\ -5277 \\ \hline \end{array}$

Bite into a Riddle

Here is a code.

| | | | | |
|------|------|-----|------|-----|
| 1588 | 3856 | 147 | 1867 | 257 |
| O | B | C | M | A |

Subtract to find the answer to the riddle below.

What has teeth but cannot chew?

| |
|-------------|
| 536
-279 |
| |
| |

| | | | |
|-------------|--------------|---------------|---------------|
| 345
-198 | 2581
-993 | 3824
-1957 | 9135
-5279 |
| | | | |
| | | | |

Subtraction, Regrouping with Zeros

There are 3000 shirts in the school store.
1846 shirts have the school name on them.
How many shirts do not have the school name on them?



Subtract 1846 from 3000.

Regroup 300 tens 0 ones
as 299 tens 10 ones.

$$\begin{array}{r} 29910 \\ \cancel{3000} \\ - 1846 \\ \hline \end{array}$$

Subtract.

$$\begin{array}{r} 29910 \\ \cancel{3000} \\ - 1846 \\ \hline 1154 \end{array}$$

1154 shirts do not have the school name on them.

Subtract.



1. $\begin{array}{r} 2048 \\ - 894 \\ \hline \end{array}$

2. $\begin{array}{r} 5006 \\ - 2739 \\ \hline \end{array}$

3. $\begin{array}{r} 6000 \\ - 2564 \\ \hline \end{array}$

4. $\begin{array}{r} 3080 \\ - 1863 \\ \hline \end{array}$

5. $\begin{array}{r} 7006 \\ - 2237 \\ \hline \end{array}$



6. $\begin{array}{r} 4302 \\ - 2346 \\ \hline \end{array}$

7. $\begin{array}{r} \$8006 \\ - 4372 \\ \hline \end{array}$

8. $\begin{array}{r} \$9530 \\ - 3649 \\ \hline \end{array}$

9. $\begin{array}{r} 5007 \\ - 3219 \\ \hline \end{array}$

10. $\begin{array}{r} 8004 \\ - 2456 \\ \hline \end{array}$



11. The school store had 2000 book covers. 1212 have been sold.
How many book covers are left?

12. The school store had 5030 erasers. 1253 have been sold.
How many erasers are left?

Subtract.

13. $\begin{array}{r} 760 \\ - 650 \\ \hline \end{array}$

14. $\begin{array}{r} 500 \\ - 389 \\ \hline \end{array}$

15. $\begin{array}{r} 406 \\ - 294 \\ \hline \end{array}$

16. $\begin{array}{r} 800 \\ - 687 \\ \hline \end{array}$

17. $\begin{array}{r} 507 \\ - 393 \\ \hline \end{array}$

18. $\begin{array}{r} 900 \\ - 785 \\ \hline \end{array}$

What do you notice about the differences?

Using Addition to Check Subtraction

Subtract and check.

$$\begin{array}{r}
 \overset{2912}{\cancel{3025}} \\
 - 1264 \\
 \hline
 1761
 \end{array}
 \left. \vphantom{\begin{array}{r} \cancel{3025} \\ - 1264 \\ \hline 1761 \end{array}} \right\} \text{Add.}
 \begin{array}{r}
 1264 \\
 + 1761 \\
 \hline
 3025
 \end{array}$$

Subtract. Add to check.

.

1. 37

$$\begin{array}{r}
 37 \\
 - 25 \\
 \hline
 \end{array}
 \left. \vphantom{\begin{array}{r} 37 \\ - 25 \\ \hline \end{array}} \right\} \begin{array}{l} \underline{\hspace{2cm}} \\ + \underline{\hspace{2cm}} \\ \underline{\hspace{2cm}} \end{array}$$

2. 683

$$\begin{array}{r}
 683 \\
 - 405 \\
 \hline
 \end{array}
 \left. \vphantom{\begin{array}{r} 683 \\ - 405 \\ \hline \end{array}} \right\} \begin{array}{l} \underline{\hspace{2cm}} \\ + \underline{\hspace{2cm}} \\ \underline{\hspace{2cm}} \end{array}$$

3. 853

$$\begin{array}{r}
 853 \\
 - 384 \\
 \hline
 \end{array}
 \left. \vphantom{\begin{array}{r} 853 \\ - 384 \\ \hline \end{array}} \right\} \begin{array}{l} \underline{\hspace{2cm}} \\ + \underline{\hspace{2cm}} \\ \underline{\hspace{2cm}} \end{array}$$

.

4. $\$4639$

$$\begin{array}{r}
 \$4639 \\
 - 2752 \\
 \hline
 \end{array}
 \left. \vphantom{\begin{array}{r} \$4639 \\ - 2752 \\ \hline \end{array}} \right\} \begin{array}{l} \underline{\hspace{2cm}} \\ + \underline{\hspace{2cm}} \\ \underline{\hspace{2cm}} \end{array}$$

5. 5321

$$\begin{array}{r}
 5321 \\
 - 857 \\
 \hline
 \end{array}
 \left. \vphantom{\begin{array}{r} 5321 \\ - 857 \\ \hline \end{array}} \right\} \begin{array}{l} \underline{\hspace{2cm}} \\ + \underline{\hspace{2cm}} \\ \underline{\hspace{2cm}} \end{array}$$

6. 1700

$$\begin{array}{r}
 1700 \\
 - 539 \\
 \hline
 \end{array}
 \left. \vphantom{\begin{array}{r} 1700 \\ - 539 \\ \hline \end{array}} \right\} \begin{array}{l} \underline{\hspace{2cm}} \\ + \underline{\hspace{2cm}} \\ \underline{\hspace{2cm}} \end{array}$$

Solve. Check by adding.

.

7. School supplies cost \$6.93.
Jon Paul pays with a \$10 bill.
How much change does he get?
- _____

8. Marie buys \$9.56 in art supplies.
She pays with \$20.00.
How much change does she get?
- _____

Subtract across and down. Then subtract to find the magic difference in the corner.

→
↓

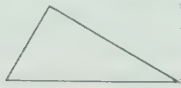
| | | |
|-----|-----|--|
| 845 | 478 | |
| 269 | 81 | |
| | | |

→
↓

| | | |
|-----|-----|--|
| 976 | 582 | |
| 441 | 154 | |
| | | |

Polygons and Circles

A polygon is made up of line segments. Here are some polygons.



triangle



quadrilateral



pentagon



hexagon



octagon

A circle is not made up of line segments.
A circle is not a polygon.



Write the name of the polygon.



1.



2.



3.



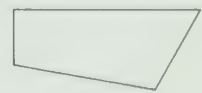
4.



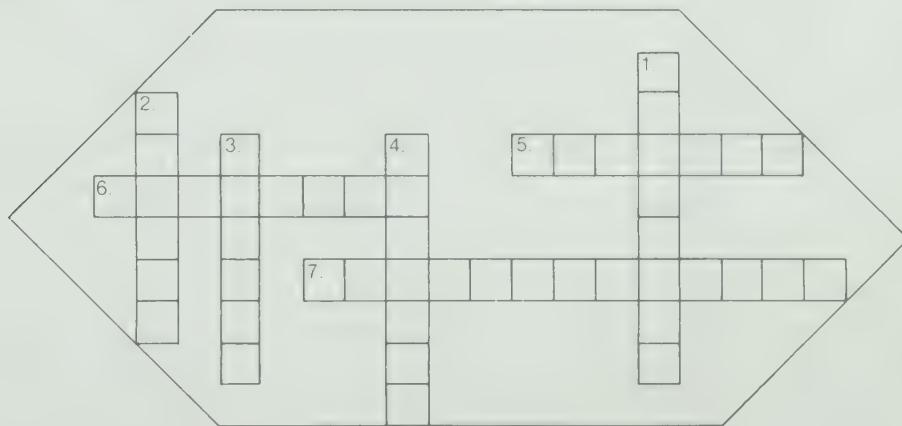
5.



6.



Cross-Number Hexagon



Across

5. An 8-sided polygon.
6. A 3-sided polygon.
7. What this figure is called.



Down

1. What this line segment is called.
2. A curved path of which all the points are the same distance from a centre point.
3. What this line segment is called.
4. What this figure is called.



quadrilateral



triangle



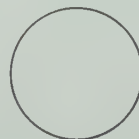
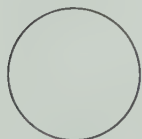
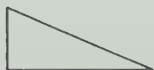
Congruent Shapes

Cut out triangle 2. Place it on triangle 1 so that the A's line up.
Are the triangles exactly the same size and shape?

Figures that are the same size and shape are congruent.



Use tracing paper. In each row, circle the shape that is congruent to the first shape.



NAME _____

Multiplication, 0 to 5 as Factors

Start at 0 on the number line. Make 4 jumps of 3. Where do you land?



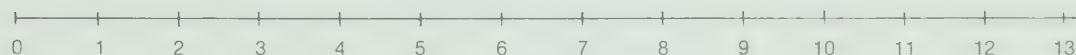
4 jumps of 3 bring you to 12.

We can write $3 + 3 + 3 + 3 = 12$

or

$$4 \times 3 = 12$$

Use the number line to multiply.



1. $2 \times 5 = \underline{\quad}$ 2. $1 \times 4 = \underline{\quad}$ 3. $5 \times 2 = \underline{\quad}$

4. $2 \times 3 = \underline{\quad}$ 5. $4 \times 2 = \underline{\quad}$ 6. $2 \times 5 = \underline{\quad}$

Multiply. Use a number line if you need to.

7. $2 \times 4 = \underline{\quad}$ 8. $2 \times 1 = \underline{\quad}$ 9. $1 \times 3 = \underline{\quad}$

10. $3 \times 6 = \underline{\quad}$ 11. $4 \times 5 = \underline{\quad}$ 12. $8 \times 1 = \underline{\quad}$

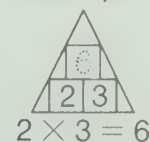
13.
$$\begin{array}{r} 6 \\ \times 1 \\ \hline \end{array}$$
 14.
$$\begin{array}{r} 5 \\ \times 4 \\ \hline \end{array}$$
 15.
$$\begin{array}{r} 3 \\ \times 5 \\ \hline \end{array}$$

16.
$$\begin{array}{r} 5 \\ \times 3 \\ \hline \end{array}$$
 17.
$$\begin{array}{r} 2 \\ \times 9 \\ \hline \end{array}$$
 18.
$$\begin{array}{r} 6 \\ \times 3 \\ \hline \end{array}$$

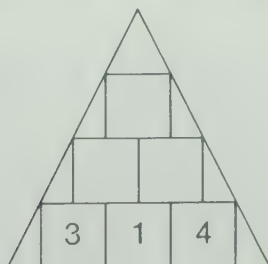
Multiplication Triangles

Complete each triangle. Find each missing number by multiplying the two numbers in the boxes below it.

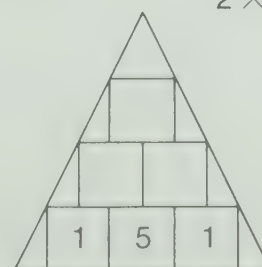
Example



19.



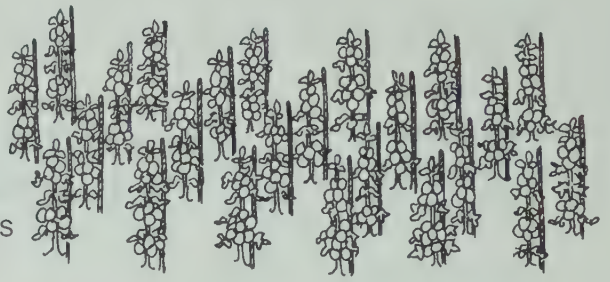
20.




Multiplication, 6 to 9 as Factors


Ellen planted 6 rows of tomato plants.
There are 4 plants in each row.
How many plants are there?

We can add. $4 + 4 + 4 + 4 + 4 + 4 = 24$ plants
We can multiply. $6 \times 4 = 24$
There are 24 plants.



Write two addition and two multiplication sentences for each picture.

1.  _____

2.  _____

Complete each multiplication table.

3.

| | | | | | | | | | | |
|----------|---|---|---|---|---|---|---|---|---|---|
| \times | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 6 | | | | | | | | | | |

4.

| | | | | | | | | | | |
|----------|---|---|---|---|---|---|---|---|---|---|
| \times | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 7 | | | | | | | | | | |

Find each product.

5. $6 \times 3 =$ _____ 6. $7 \times 3 =$ _____ 7. $6 \times 6 =$ _____

8. $1 \times 6 =$ _____ 9. $7 \times 7 =$ _____ 10. $2 \times 6 =$ _____

Here is a code.

| | | | | | | | | | | | |
|---|----|---|----|----|----|----|----|----|----|---|----|
| N | E | P | T | M | W | F | S | I | G | A | J |
| 0 | 30 | 7 | 21 | 18 | 14 | 25 | 63 | 24 | 42 | 6 | 48 |

Multiply. You will see the name of a team.

| | | | | | | | |
|--|--|--|--|--|--|--|--|
| $\begin{array}{r} 7 \\ \times 2 \\ \hline \end{array}$ | $\begin{array}{r} 6 \\ \times 4 \\ \hline \end{array}$ | $\begin{array}{r} 0 \\ \times 7 \\ \hline \end{array}$ | $\begin{array}{r} 6 \\ \times 0 \\ \hline \end{array}$ | $\begin{array}{r} 4 \\ \times 6 \\ \hline \end{array}$ | $\begin{array}{r} 7 \\ \times 1 \\ \hline \end{array}$ | $\begin{array}{r} 6 \\ \times 5 \\ \hline \end{array}$ | $\begin{array}{r} 7 \\ \times 6 \\ \hline \end{array}$ |
| | | | | | | | |
| | | | | | | | |

| | | | |
|--|--|--|--|
| $\begin{array}{r} 6 \\ \times 8 \\ \hline \end{array}$ | $\begin{array}{r} 5 \\ \times 6 \\ \hline \end{array}$ | $\begin{array}{r} 7 \\ \times 3 \\ \hline \end{array}$ | $\begin{array}{r} 9 \\ \times 7 \\ \hline \end{array}$ |
| | | | |
| | | | |

$21 = 9 \times 2$
 $21 = 2 \times 9$
 $21 = 2 + 2 + 2 + 2 + 2 + 2 + 2$
 $21 = 9 + 9$

Multiplication, 0 to 9 as Factors

There are 3 trucks. Each truck has 8 wheels. How many wheels are there?



We can add.
 $8 + 8 + 8 = 24$

We can multiply.
 $3 \times 8 = 24$

Find each product.



1. $8 \times 2 = \underline{\quad}$

2. $6 \times 9 = \underline{\quad}$

3. $9 \times 4 = \underline{\quad}$



4. $5 \times 8 = \underline{\quad}$

5. $9 \times 1 = \underline{\quad}$

6. $8 \times 5 = \underline{\quad}$



7. $4 \times 8 = \underline{\quad}$

8. $0 \times 9 = \underline{\quad}$

9. $9 \times 8 = \underline{\quad}$



10. $\begin{array}{r} 8 \\ \times 3 \\ \hline \end{array}$

11. $\begin{array}{r} 9 \\ \times 4 \\ \hline \end{array}$

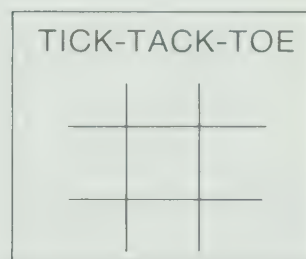
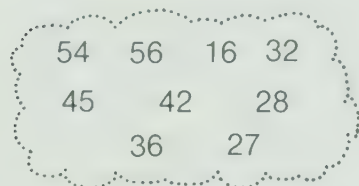
12. $\begin{array}{r} 5 \\ \times 9 \\ \hline \end{array}$

13. $\begin{array}{r} 6 \\ \times 8 \\ \hline \end{array}$

14. $\begin{array}{r} 1 \\ \times 9 \\ \hline \end{array}$

15. $\begin{array}{r} 8 \\ \times 0 \\ \hline \end{array}$

Fill in the spaces on the tick-tack-toe board with these numbers.



Now choose any problem below. Write a multiplication fact to answer the question. Put an X on the answer on the tick-tack-toe board. Three X's in a line wins.



16. 8 flowerpots. 7 seeds in each pot.
How many seeds? _____

17. 5 rows. 9 plants in each row.
How many plants? _____

18. 8 cars. 4 wheels on each.
How many wheels? _____

19. 8 bicycles. 2 wheels on each.
How many wheels? _____

20. 6 teams. 9 students on each team.
How many students? _____

21. 6 shelves. 7 books on each shelf.
How many books? _____

22. 3 plants. 9 flowers on each plant.
How many flowers? _____

23. 6 floors. 6 apartments on each floor.
How many apartments? _____

24. 4 weeks. 7 days in each week.
How many days? _____



10 and Multiples of 10 as Factors

Multiply $\begin{array}{r} 40 \\ \times 3 \\ \hline \end{array}$

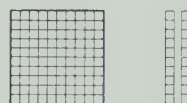
$40 = 4 \text{ tens}$

$$\begin{array}{r} 4 \quad 4 \text{ tens} \\ \times 3 \\ \hline 12 \quad 12 \text{ tens} \end{array}$$



12 tens

=



1 hundred 2 tens or 120

The product of 3 and 40 is 120.

Complete.



1. $5 \times 3 = \underline{\quad}$

$5 \times 3 \text{ tens} = \underline{\quad}$

$5 \times 30 = \underline{\quad}$

2. $7 \times 3 = \underline{\quad}$

$7 \times 3 \text{ tens} = \underline{\quad}$

$7 \times 30 = \underline{\quad}$

3. $3 \times 6 = \underline{\quad}$

$3 \times 6 \text{ tens} = \underline{\quad}$

$3 \times 60 = \underline{\quad}$



4. $\begin{array}{r} 50 \\ \times 2 \\ \hline \end{array}$

5. $\begin{array}{r} 60 \\ \times 8 \\ \hline \end{array}$

6. $\begin{array}{r} 30 \\ \times 6 \\ \hline \end{array}$

7. $\begin{array}{r} 20 \\ \times 3 \\ \hline \end{array}$

8. $\begin{array}{r} 90 \\ \times 9 \\ \hline \end{array}$

9. $\begin{array}{r} 10 \\ \times 5 \\ \hline \end{array}$



10. $\begin{array}{r} 10 \\ \times 4 \\ \hline \end{array}$

11. $\begin{array}{r} 90 \\ \times 2 \\ \hline \end{array}$

12. $\begin{array}{r} 60 \\ \times 9 \\ \hline \end{array}$

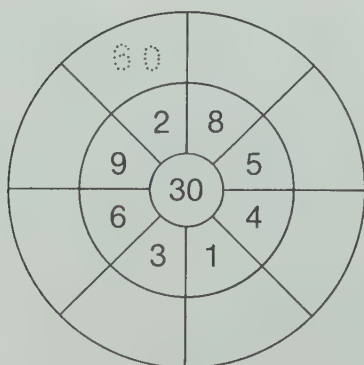
13. $\begin{array}{r} 70 \\ \times 3 \\ \hline \end{array}$

14. $\begin{array}{r} 50 \\ \times 4 \\ \hline \end{array}$

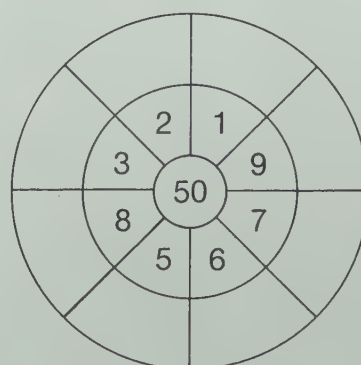
15. $\begin{array}{r} 40 \\ \times 8 \\ \hline \end{array}$

Complete the product wheels. Find each product by multiplying the number in the centre by another number in the wheel.

16.



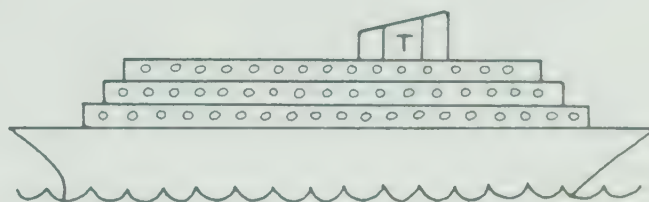
17.



Multiplying Two-Digit Numbers

The passenger ship has 3 decks.
There are 24 rooms on each deck.
How many rooms are there?

Multiply 24×3 .



Multiply the ones.

$$\begin{array}{r} 24 \\ \times 3 \\ \hline 3 \times 4 \text{ ones} \quad 12 \end{array}$$

Multiply the tens.

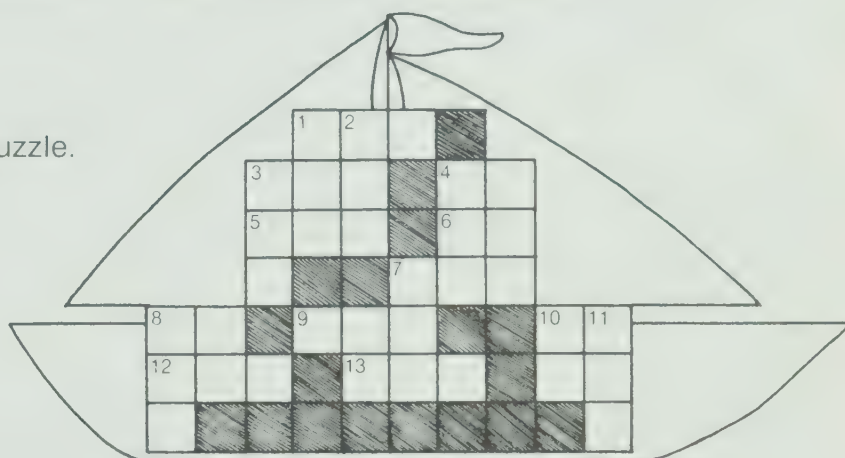
$$\begin{array}{r} 24 \\ \times 3 \\ \hline 3 \times 2 \text{ tens} \quad 60 \end{array}$$

Add.

$$\begin{array}{r} 24 \\ \times 3 \\ \hline 12 \\ + 60 \\ \hline 72 \end{array}$$

There are 72 rooms.

Complete the cross-number puzzle.



Across



1. $\begin{array}{r} 32 \\ \times 4 \\ \hline \end{array}$

3. $\begin{array}{r} 58 \\ \times 4 \\ \hline \end{array}$

4. $\begin{array}{r} 34 \\ \times 2 \\ \hline \end{array}$



5. $\begin{array}{r} 34 \\ \times 6 \\ \hline \end{array}$

6. $\begin{array}{r} 45 \\ \times 2 \\ \hline \end{array}$

7. $\begin{array}{r} 41 \\ \times 9 \\ \hline \end{array}$



8. $\begin{array}{r} 23 \\ \times 2 \\ \hline \end{array}$

9. $\begin{array}{r} 72 \\ \times 6 \\ \hline \end{array}$

10. $\begin{array}{r} 32 \\ \times 3 \\ \hline \end{array}$



12. $\begin{array}{r} 85 \\ \times 5 \\ \hline \end{array}$

13. $\begin{array}{r} 56 \\ \times 8 \\ \hline \end{array}$

Down

1. $\begin{array}{r} 26 \\ \times 5 \\ \hline \end{array}$

2. $\begin{array}{r} 28 \\ \times 8 \\ \hline \end{array}$

3. $\begin{array}{r} 32 \\ \times 7 \\ \hline \end{array}$

4. $\begin{array}{r} 87 \\ \times 8 \\ \hline \end{array}$

7. $\begin{array}{r} 54 \\ \times 6 \\ \hline \end{array}$

8. $\begin{array}{r} 64 \\ \times 7 \\ \hline \end{array}$

10. $\begin{array}{r} 23 \\ \times 4 \\ \hline \end{array}$

11. $\begin{array}{r} 74 \\ \times 9 \\ \hline \end{array}$

Multiplying Dollars and Cents

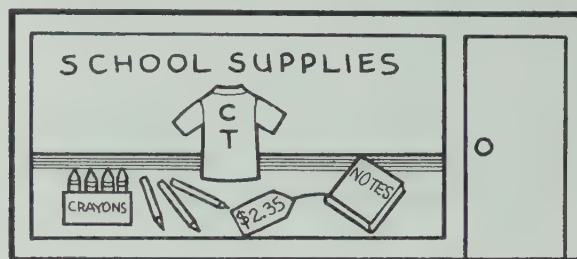
Joanne buys supplies in the school store.
How much do 3 notebooks cost her?

Multiply \$2.35 by 3.

$$\begin{array}{r} \$2.35 \\ \times \quad 3 \\ \hline \end{array}$$

Think

$$\$2.35 = 235¢$$



$$\begin{array}{r} 235¢ \\ \times \quad 3 \\ \hline 705¢ \end{array}$$

Think

$$705¢ = \$7.05$$

Joanne spent \$7.05 for 3 notebooks.

Multiply.



1. $\begin{array}{r} \$4.63 \\ \times \quad 5 \\ \hline \end{array}$

2. $\begin{array}{r} \$5.09 \\ \times \quad 6 \\ \hline \end{array}$

3. $\begin{array}{r} \$3.24 \\ \times \quad 7 \\ \hline \end{array}$

4. $\begin{array}{r} \$7.25 \\ \times \quad 4 \\ \hline \end{array}$



5. $\begin{array}{r} \$6.50 \\ \times \quad 3 \\ \hline \end{array}$

6. $\begin{array}{r} 75¢ \\ \times \quad 9 \\ \hline \end{array}$

7. $\begin{array}{r} \$5.88 \\ \times \quad 2 \\ \hline \end{array}$

8. $\begin{array}{r} \$9.01 \\ \times \quad 6 \\ \hline \end{array}$

Solve.



9. Tony buys 5 book covers at \$0.49 each. How much do they cost? _____

10. Mavis buys 4 packs of paper at \$1.98 a pack. How much does she spend? _____

Solve each problem. Shade each shape containing a correct product. Some products are in the puzzle more than once.



11. $\begin{array}{r} \$1.45 \\ \times \quad 2 \\ \hline \end{array}$

12. $\begin{array}{r} \$2.49 \\ \times \quad 3 \\ \hline \end{array}$

13. $\begin{array}{r} \$3.69 \\ \times \quad 4 \\ \hline \end{array}$

14. $\begin{array}{r} \$4.75 \\ \times \quad 5 \\ \hline \end{array}$

15. $\begin{array}{r} \$5.51 \\ \times \quad 6 \\ \hline \end{array}$



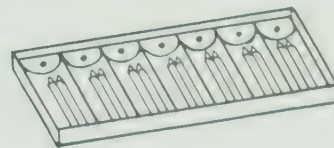
Multiplying, More Than Two Factors

A box holds 7 pencil cases.


There are 2 pencils in each pencil case.

How many pencils are in 5 boxes?


Multiply 5, 7, and 2.



Paul solves the problem this way:

$$\begin{array}{r} (5 \times 7) \times 2 \\ 35 \times 2 \\ \begin{array}{r} 35 \\ \times 2 \\ \hline 70 \end{array} \end{array}$$


Dana solves the problem this way:

$$\begin{array}{r} 5 \times (7 \times 2) \\ 5 \times 14 \\ \begin{array}{r} 14 \\ \times 5 \\ \hline 70 \end{array} \end{array}$$


There are 70 pencils in the 5 boxes.

Multiply and complete.



1. 6, 4, 3

$$\begin{array}{r} 6 \\ \times 4 \\ \hline \end{array} \quad \begin{array}{r} \\ \times 3 \\ \hline \end{array}$$

2. 8, 4, 5

$$\begin{array}{r} 8 \\ \times 4 \\ \hline \end{array} \quad \begin{array}{r} \\ \times 5 \\ \hline \end{array}$$



3. 2, 5, 8

$$\begin{array}{r} 2 \\ \times 5 \\ \hline \end{array} \quad \begin{array}{r} \\ \times 8 \\ \hline \end{array}$$

4. 4, 9, 8

$$\begin{array}{r} 4 \\ \times 9 \\ \hline \end{array} \quad \begin{array}{r} \\ \times 8 \\ \hline \end{array}$$

A Cow in a Code

Here is a code.

| | | | | | | | |
|----|----|-----|----|-----|-----|----|----|
| 54 | 36 | 360 | 60 | 144 | 112 | 42 | 40 |
| I | S | O | E | T | M | H | V |

Multiply to answer the riddle. Where do cows go on a date?

| | |
|-------------------------|-------------------------|
| $(3 \times 8) \times 6$ | $5 \times (9 \times 8)$ |
| | |
| | |

| | | |
|-------------------------|-------------------------|-------------------------|
| $6 \times (6 \times 4)$ | $(7 \times 3) \times 2$ | $4 \times (3 \times 5)$ |
| | | |
| | | |

| | | |
|-------------------------|-------------------------|-------------------------|
| $(2 \times 8) \times 7$ | $(5 \times 9) \times 8$ | $(8 \times 5) \times 9$ |
| | | |
| | | |

| | | | |
|-------------------------|-------------------------|-------------------------|-------------------------|
| $8 \times (5 \times 1)$ | $(9 \times 2) \times 3$ | $(6 \times 2) \times 5$ | $6 \times (3 \times 2)$ |
| | | | |
| | | | |

$$\begin{array}{r} 80 \\ \times 8 \\ \hline 10 \end{array}$$

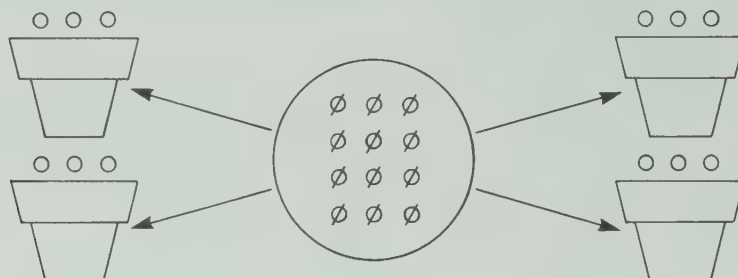
$$\begin{array}{r} 10 \\ \times 5 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 72 \\ \times 3 \\ \hline 24 \end{array}$$

$$\begin{array}{r} 24 \\ \times 4 \\ \hline 6 \end{array}$$

Sharing

12 seeds for 4 flowerpots. How many seeds in each pot?

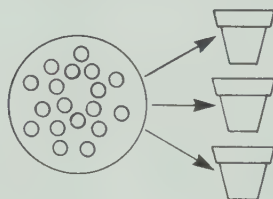


3 seeds go into each pot.

Complete each picture and the division fact.

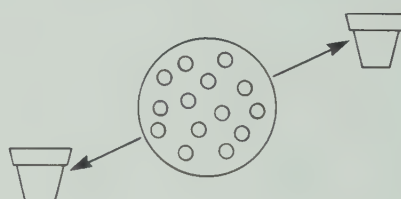


1.



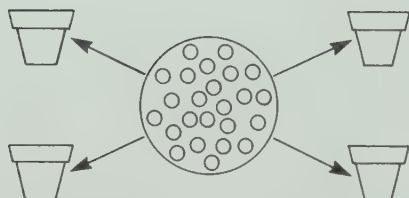
$$18 \div 3 = \underline{\quad}$$

2.



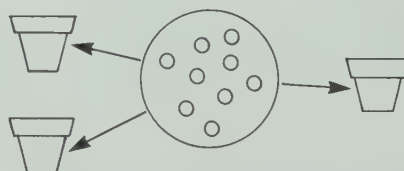
$$14 \div 2 = \underline{\quad}$$

3.



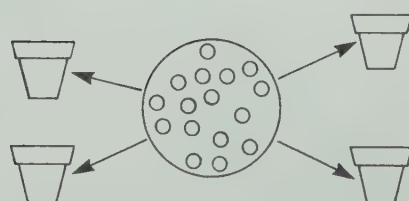
$$24 \div 4 = \underline{\quad}$$

4.



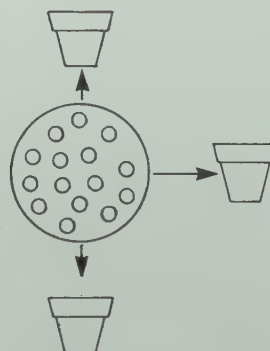
$$9 \div 3 = \underline{\quad}$$

5.



$$16 \div 4 = \underline{\quad}$$

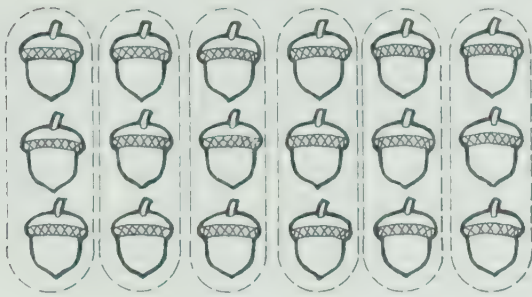
6.



$$15 \div 3 = \underline{\quad}$$

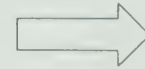


Related Multiplication and Division Facts



18 acorns in 6 groups

$$\begin{array}{r} \times 3 \\ 6 \overline{) 18} \end{array}$$



$$\begin{array}{r} 3 \\ 6 \overline{) 18} \end{array}$$

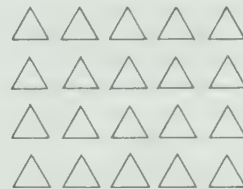
There are 3 acorns in each group.

Write two multiplication facts and two division facts for each array.



1. $\begin{array}{cccccc} \circ & \circ & \circ & \circ & \circ & \circ \\ \circ & \circ & \circ & \circ & \circ & \circ \end{array}$

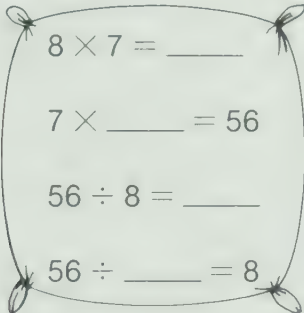
2.



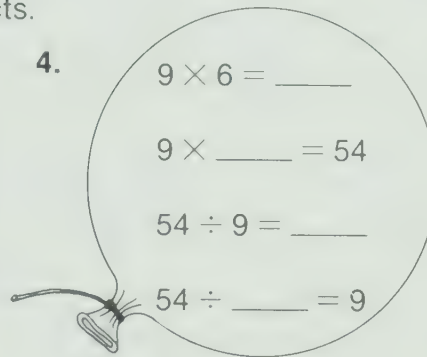
Complete each family of facts.



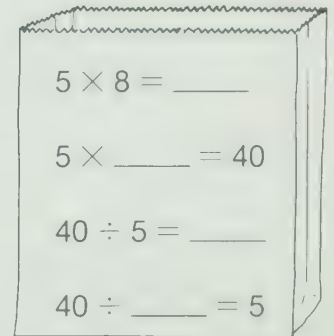
3.



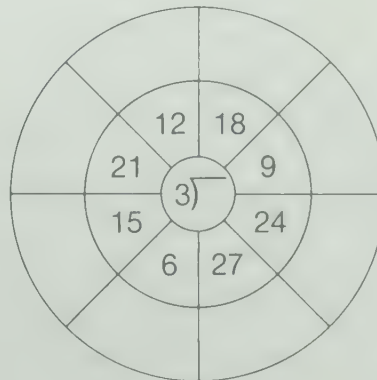
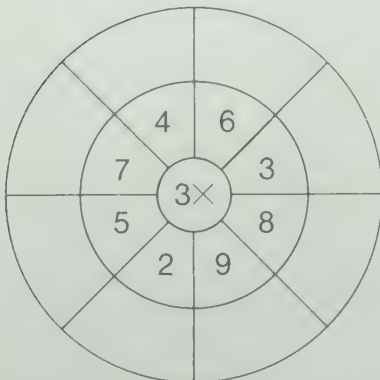
4.



5.



Complete each target. Fill in the blank spaces with the missing products and quotients.

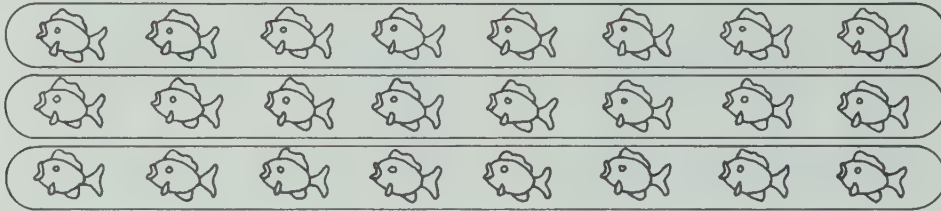


$$\begin{array}{l} 9 = 2 \div 12 \\ 2 = 9 \div 12 \\ 12 = 9 \times 2 \\ 12 = 2 \times 9 \end{array}$$

$$\begin{array}{l} 7 \\ 7 \\ 8 \\ 99 \end{array}$$

Finding the Number of Groups

Here are 24 fish. Ring groups of 8 fish.

There are 3 groups. We write $8 \overline{)24}^3$.

Ring the groups and answer the division questions.

1. $\begin{array}{ccccc} \bullet & \bullet & \bullet & \bullet & \bullet \\ \bullet & \bullet & \bullet & \bullet & \bullet \\ \bullet & \bullet & \bullet & \bullet & \bullet \end{array}$ 15 dots. Ring groups of 3.
How many 3's in 15? _____

$15 \div 3 = \underline{\hspace{2cm}}$

2. $\begin{array}{cccc} \bullet & \bullet & \bullet & \bullet \\ \bullet & \bullet & \bullet & \bullet \\ \bullet & \bullet & \bullet & \bullet \\ \bullet & \bullet & \bullet & \bullet \end{array}$ 16 dots. Ring groups of 2.
How many 2's in 16? _____

$16 \div 2 = \underline{\hspace{2cm}}$

Divide.



3. $6 \overline{)24}$

4. $4 \overline{)20}$

5. $3 \overline{)21}$

6. $2 \overline{)18}$



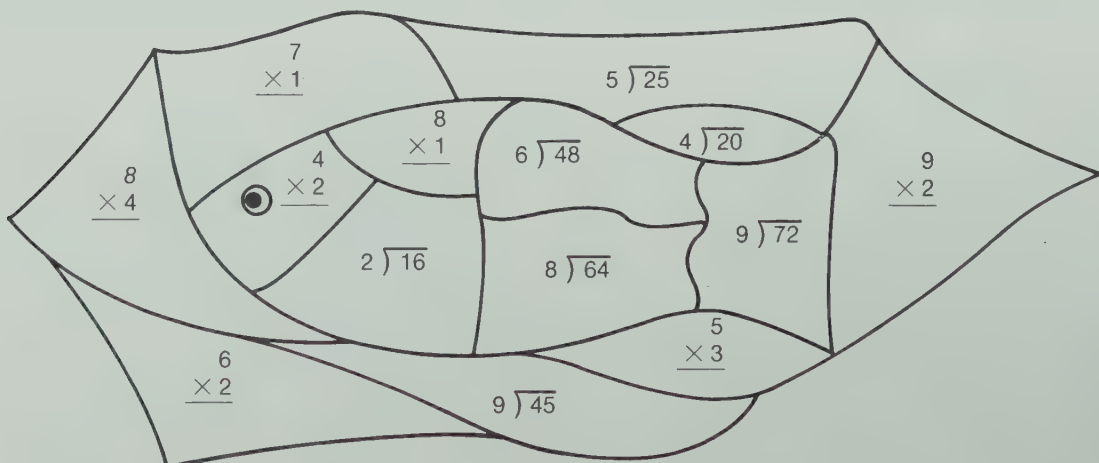
7. $5 \overline{)35}$

8. $4 \overline{)28}$

9. $6 \overline{)18}$

10. $4 \overline{)12}$

Multiply or divide. Shade each shape that has a product or quotient of 8.



Dividing by 2 to 5

Michelle has 200 photographs. She has 4 albums. If she puts the same number in each album, how many photographs are in each?



Divide 200 by 4.

Think $4 \overline{)20}$

$4 \times 5 = 20$

$4 \times 5 \text{ tens} = 20 \text{ tens}$

$4 \times 50 = 200$

$$\begin{array}{r} 50 \\ 4 \overline{)200} \end{array}$$

There are 50 photographs in each album.

Complete each pattern.

| | | |
|---|-------------------------------------|-------------------------------------|
| \cdot 1. $3 \times 5 = \underline{\quad}$ | 2. $4 \times 2 = \underline{\quad}$ | 3. $7 \times 3 = \underline{\quad}$ |
| $15 \div 5 = \underline{\quad}$ | $8 \div 2 = \underline{\quad}$ | $21 \div 3 = \underline{\quad}$ |
| $150 \div 5 = \underline{\quad}$ | $80 \div 2 = \underline{\quad}$ | $210 \div 3 = \underline{\quad}$ |

| | | | |
|------------------------------------|-----------------------|-----------------------|-----------------------|
| $\cdot \cdot$ 4. $3 \overline{)9}$ | 5. $5 \overline{)25}$ | 6. $4 \overline{)16}$ | 7. $2 \overline{)10}$ |
|------------------------------------|-----------------------|-----------------------|-----------------------|

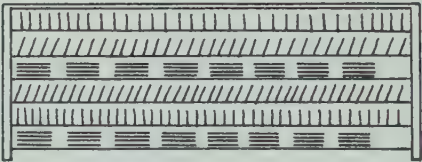
| | | | |
|--|-----------------------|------------------------|------------------------|
| $\cdot \cdot \cdot$ 8. $4 \overline{)8}$ | 9. $3 \overline{)24}$ | 10. $4 \overline{)32}$ | 11. $5 \overline{)15}$ |
|--|-----------------------|------------------------|------------------------|

| | | | |
|---|------------------------|-------------------------|-------------------------|
| $\cdot \cdot \cdot \cdot$ 12. $2 \overline{)160}$ | 13. $3 \overline{)60}$ | 14. $5 \overline{)350}$ | 15. $4 \overline{)120}$ |
|---|------------------------|-------------------------|-------------------------|

| | | | |
|---|------------------------|-------------------------|-------------------------|
| $\cdot \cdot \cdot \cdot \cdot$ 16. $3 \overline{)300}$ | 17. $2 \overline{)40}$ | 18. $5 \overline{)450}$ | 19. $4 \overline{)200}$ |
|---|------------------------|-------------------------|-------------------------|

Dividing by 6 to 9

Christopher has 240 record albums.
He keeps them on 6 different shelves
with the same number of records on each.
How many record albums are on each shelf?



Think

$6 \overline{)24}$
 $6 \times 4 = 24$
 $6 \times 4 \text{ tens} = 24 \text{ tens}$
 $6 \times 40 = 240$

$$\begin{array}{r} 40 \\ 6 \overline{)240} \end{array}$$

There are 40 record albums on each shelf.

Divide.

- 1. $9 \overline{)18}$

2. $6 \overline{)54}$

3. $7 \overline{)21}$

4. $6 \overline{)12}$
- 5. $7 \overline{)14}$

6. $8 \overline{)64}$

7. $7 \overline{)7}$

8. $9 \overline{)36}$
- 9. $6 \overline{)300}$

10. $8 \overline{)160}$

11. $9 \overline{)540}$

12. $6 \overline{)60}$
- 13. $5 \overline{)400}$

14. $4 \overline{)200}$

15. $3 \overline{)240}$

16. $9 \overline{)810}$

Here is a code.

| | | | | | | | | |
|----|----|----|----|----|----|----|----|----|
| 30 | 40 | 90 | 60 | 50 | 80 | 20 | 10 | 70 |
| H | O | K | P | I | N | A | M | C |

Divide to find the answer to the riddle.
What do you call a monkey that eats potato chips?

| | | | | | | | | |
|---------------------|---------------------|---------------------|---------------------|---------------------|--------------------|---------------------|---------------------|---------------------|
| $6 \overline{)120}$ | $7 \overline{)490}$ | $8 \overline{)240}$ | $9 \overline{)450}$ | $7 \overline{)420}$ | $6 \overline{)60}$ | $8 \overline{)320}$ | $9 \overline{)720}$ | $7 \overline{)630}$ |
| | | | | | | | | |
| | | | | | | | | |

Dividing by 2 to 9

Pierre has 60 model cars.

He keeps them on 3 shelves with the same number on each shelf.

How many model cars are on each shelf?



Think $3 \overline{)6}$

$3 \times 2 = 6$

$3 \times 2 \text{ tens} = 6 \text{ tens}$

$3 \times 20 = 60$

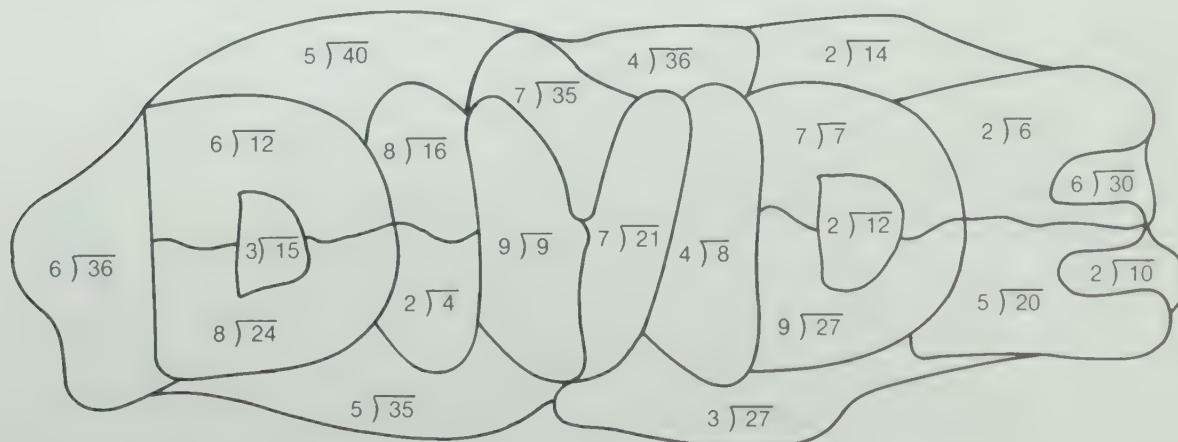
$3 \overline{)60}$

There are 20 model cars on each shelf.

Divide.

- | | | | |
|---|-------------------------|-------------------------|-------------------------|
| $\square \cdot$ 1. $2 \overline{)10}$ | 2. $3 \overline{)21}$ | 3. $7 \overline{)42}$ | 4. $\overline{)4}$ |
| $\square \cdot$ 5. $5 \overline{)15}$ | 6. $6 \overline{)30}$ | 7. $4 \overline{)20}$ | 8. $7 \overline{)56}$ |
| $\square \cdot$ 9. $2 \overline{)180}$ | 10. $3 \overline{)270}$ | 11. $5 \overline{)200}$ | 12. $8 \overline{)400}$ |
| $\square \cdot$ 13. $6 \overline{)540}$ | 14. $9 \overline{)270}$ | 15. $7 \overline{)280}$ | 16. $4 \overline{)320}$ |

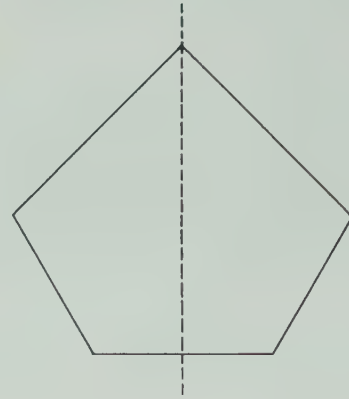
Divide. Shade all quotients of 4 or less.



Lines of Symmetry

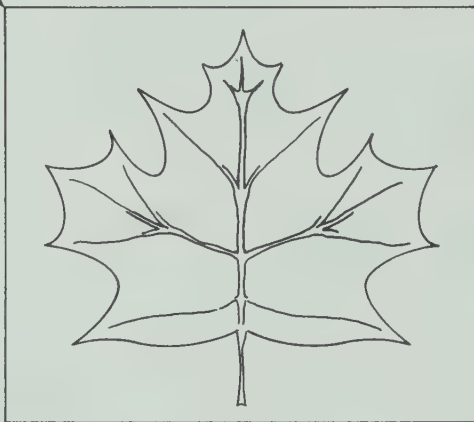
Cut out the shape. Fold along the dotted line.
Do all the parts on each side of the fold match?

This figure is symmetric.
The fold is called a line of symmetry.

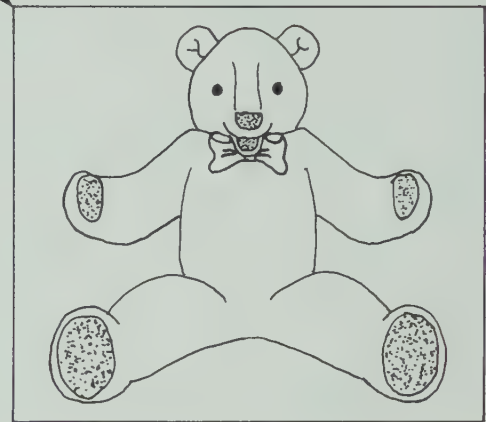


Draw all the lines of symmetry for each shape.
Cut out each picture and fold it to check your lines.

1. cut



2. cut



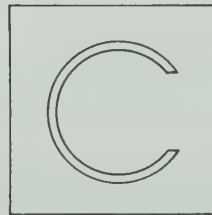
3.



4.



5.



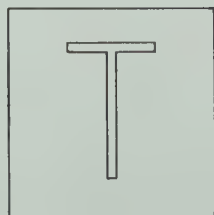
6.



7.



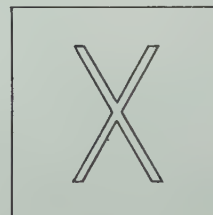
8.



9.

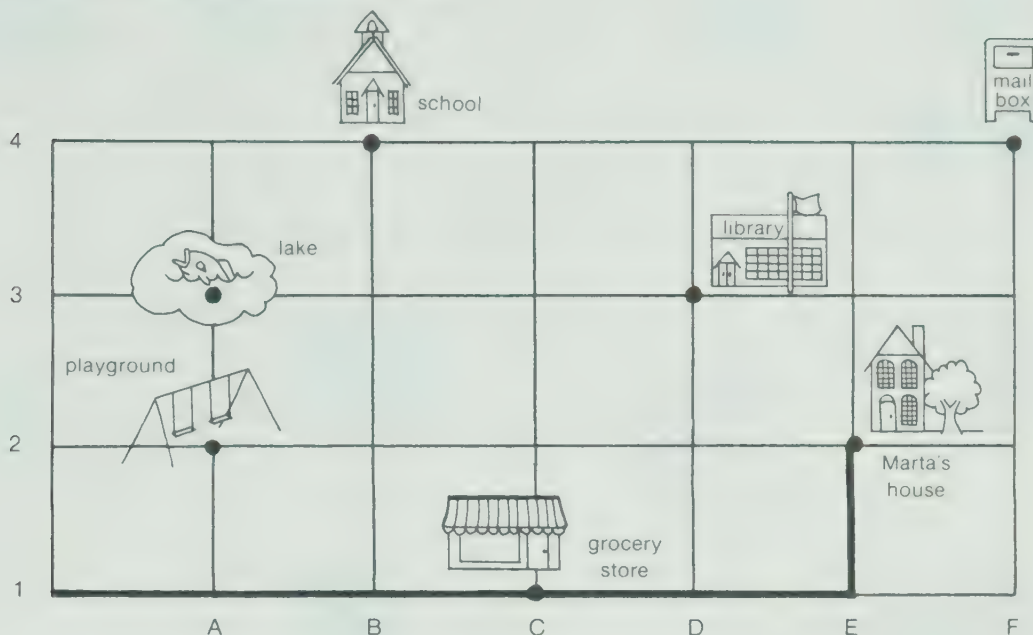


10.



Positions on a Grid

This is a map of Marta's neighborhood.



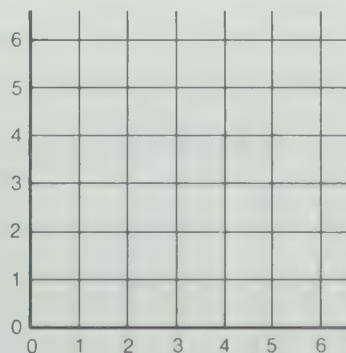
The letters and numbers help to locate places on the map.
To locate Marta's house we follow the lines to (E,2).

Use a letter and number to name each of these places in Marta's neighborhood.

- | | |
|---|---|
| <input type="checkbox"/> 1. playground _____ | <input type="checkbox"/> 2. library _____ |
| <input type="checkbox"/> 3. grocery store _____ | <input type="checkbox"/> 4. school _____ |
| <input type="checkbox"/> 5. lake _____ | <input type="checkbox"/> 6. mailbox _____ |

Draw each point on the grid. Connect the points as you draw them to make a shape.

(2,1)
(2,3)
(1,3)
(3,5)
(5,3)
(4,3)
(4,1)
(2,1)



(C,1)





(A,3)



(A,2)



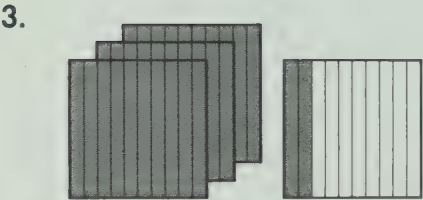
Using Decimals to Show Wholes and Tenths

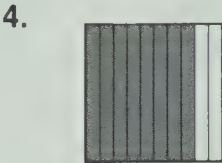
| Picture | Fraction | Decimal | Word Name |
|---|-----------------|---------|--------------------|
|  | $\frac{4}{10}$ | 0.4 | four-tenths |
|  | $1\frac{6}{10}$ | 1.6 | one and six-tenths |

Write a fraction and a decimal to show how much is shaded.









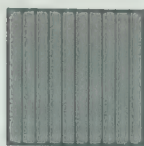
Complete the table.



| | Words | Fraction | Decimal |
|-----|-----------------------|-----------------|---------|
| 5. | three and nine-tenths | | |
| 6. | seven-tenths | | |
| 7. | | $1\frac{1}{10}$ | |
| 8. | | | 10.8 |
| 9. | | $5\frac{4}{10}$ | |
| 10. | one and five-tenths | | |
| 11. | | $8\frac{3}{10}$ | |
| 12. | | | 0.2 |



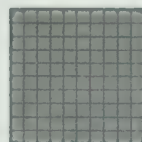
Using Decimals to Show Wholes and Hundredths



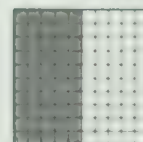
1 whole



5 out of 10 equal parts



1 whole



50 out of 100 equal parts

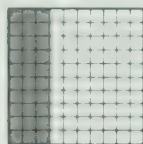
$$1\frac{5}{10} = 1\frac{50}{100}$$

$$1.5 = 1.50$$

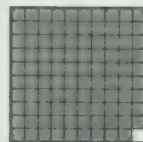
Write a decimal to show how much is shaded.



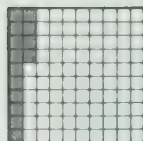
1.



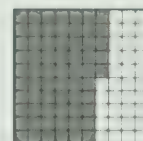
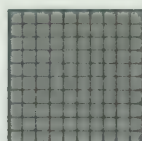
2.



3.



4.



Complete the table.



5.

one and two-hundredths

Fraction

Decimal

6.

three and forty-hundredths



7.

$$\frac{63}{100}$$

8.

2.25

9.

$$\frac{1}{100}$$



10.

15.89

15.89
fifteen and eighty-nine hundredths.



1.02, 1 $\frac{1}{2}$



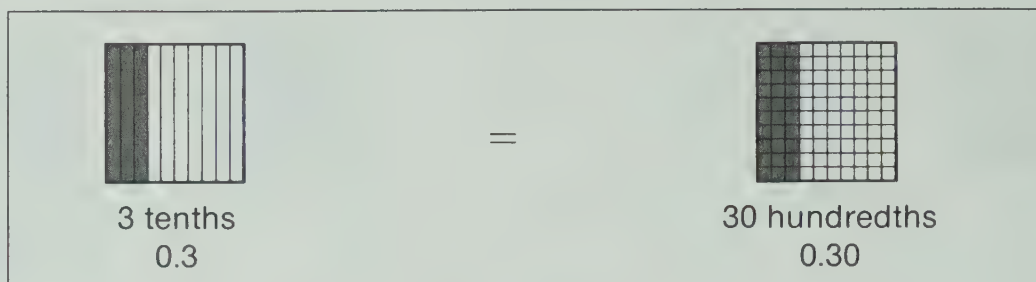
0.30



sixty-three hundredths, 0.63



Relating Hundredths and Tenths

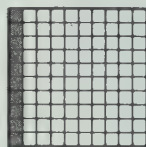
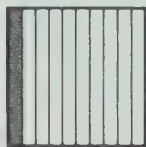


Adding a zero to the end of a decimal does not change the value of the decimal.

Write a decimal for each picture.

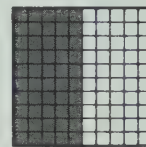
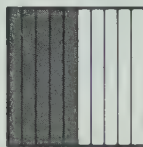
.

1.



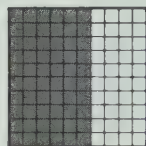
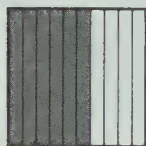
_____ = _____

2.



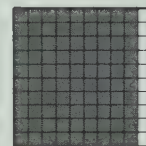
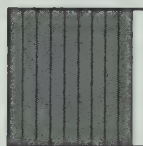
_____ = _____

3.



_____ = _____

4.



_____ = _____

Complete the chart.

.

| | Decimal as a tenth | Decimal as a hundredth |
|-----|--------------------|------------------------|
| 5. | 0.8 | |
| 6. | | 0.50 |
| 7. | 0.1 | |
| 8. | | 0.70 |
| 9. | 7.2 | |
| 10. | | 2.60 |

$$0.10 = 0.1$$

.

$$0.80$$

.

Comparing and Ordering Decimals

Compare 4.32 and 4.06.

Compare each digit.

| ones | | tenths | hundredths |
|------|---|--------|------------|
| 4 | . | 3 | 2 |
| 4 | . | 0 | 6 |

↑
same

3 tenths is greater than 0 tenths.
So, 4.32 is greater than 4.06.
Write $4.32 > 4.06$.

Write $>$ or $<$ between each pair of numbers.



1. 3.68 _____ 3.56

2. 5.9 _____ 9.5

3. 1.8 _____ 1.6



2. 4.19 _____ 4.17

5. 6.84 _____ 7.84

6. 0.3 _____ 3.0

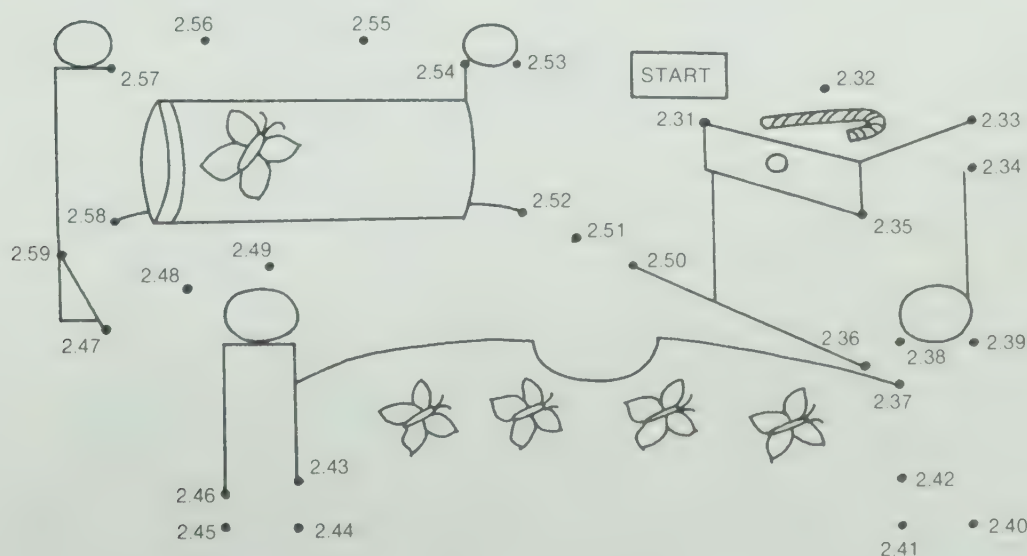


7. $\$7.04$ _____ $\$7.40$

8. $\$3.06$ _____ $\$3.16$

9. $\$2.01$ _____ $\$2.10$

Connect the dots in order from least to greatest.



Adding and Subtracting Decimals

Subtract 2.35 from 3.27.

Subtract the hundredths.

$$\begin{array}{r} 3.27 \\ - 2.35 \\ \hline 2 \end{array}$$

Subtract the tenths.

$$\begin{array}{r} 2.12 \\ 3.27 \\ - 2.35 \\ \hline 92 \end{array}$$

Regroup 3 ones 2 tenths
as 2 ones 12 tenths.

Subtract the ones.

$$\begin{array}{r} 2.12 \\ 3.27 \\ - 2.35 \\ \hline 0.92 \end{array}$$

Place the decimal point.

The difference is 0.92.

Add.



$$\begin{array}{r} 1. \quad 4.8 \\ + 2.3 \\ \hline \end{array}$$

$$\begin{array}{r} 2. \quad 6.9 \\ + 3.4 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 8.54 \\ + 4.53 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 27.03 \\ + 13.29 \\ \hline \end{array}$$

Subtract.



$$\begin{array}{r} 5. \quad 7.8 \\ - 3.1 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 5.3 \\ - 2.5 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 9.26 \\ - 5.43 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 46.32 \\ - 12.89 \\ \hline \end{array}$$

Add or subtract. Shade each box where the sum or difference is 7.32.

| | | | | | | |
|--|--|--|--|--|--|--|
| $\begin{array}{r} 7.34 \\ +2.81 \\ \hline \end{array}$ | $\begin{array}{r} 4.07 \\ +3.25 \\ \hline \end{array}$ | $\begin{array}{r} 8.2 \\ -2.4 \\ \hline \end{array}$ | $\begin{array}{r} 9.7 \\ +2.6 \\ \hline \end{array}$ | $\begin{array}{r} 8.6 \\ -3.9 \\ \hline \end{array}$ | $\begin{array}{r} 6.32 \\ +2.10 \\ \hline \end{array}$ | $\begin{array}{r} 9.9 \\ +3.3 \\ \hline \end{array}$ |
| $\begin{array}{r} 9.00 \\ -1.68 \\ \hline \end{array}$ | $\begin{array}{r} 5.00 \\ +2.32 \\ \hline \end{array}$ | $\begin{array}{r} 2.38 \\ +4.94 \\ \hline \end{array}$ | $\begin{array}{r} 5.3 \\ +6.9 \\ \hline \end{array}$ | $\begin{array}{r} 9.02 \\ -1.70 \\ \hline \end{array}$ | $\begin{array}{r} 8.64 \\ -1.32 \\ \hline \end{array}$ | $\begin{array}{r} 8.1 \\ -5.2 \\ \hline \end{array}$ |
| $\begin{array}{r} 6.27 \\ +3.19 \\ \hline \end{array}$ | $\begin{array}{r} \$8.57 \\ -1.25 \\ \hline \end{array}$ | $\begin{array}{r} 3.25 \\ +5.95 \\ \hline \end{array}$ | $\begin{array}{r} 2.2 \\ -0.9 \\ \hline \end{array}$ | $\begin{array}{r} \$8.62 \\ +3.74 \\ \hline \end{array}$ | | |



Multiplying One-Place Decimals

There are 3.8 L of water in a bucket. How many litres of water are in 6 buckets?

Multiply the tenths.

$$\begin{array}{r} 4 \\ 3.8 \\ \times 6 \\ \hline .8 \end{array}$$

6×8 tenths = 48 tenths
or 4 ones 8 tenths

Multiply the ones.

$$\begin{array}{r} 4 \\ 3.8 \\ \times 6 \\ \hline 22.8 \end{array}$$

6×3 ones = 18 ones
18 ones 4 ones = 22 ones

There are 22.8 L of water in 6 buckets.

Multiply.

☐ 1. $\begin{array}{r} 4.3 \\ \times 9 \\ \hline \end{array}$

2. $\begin{array}{r} 6.5 \\ \times 6 \\ \hline \end{array}$

3. $\begin{array}{r} 2.7 \\ \times 8 \\ \hline \end{array}$

4. $\begin{array}{r} 3.9 \\ \times 2 \\ \hline \end{array}$

☐ 5. $\begin{array}{r} 7.2 \\ \times 7 \\ \hline \end{array}$

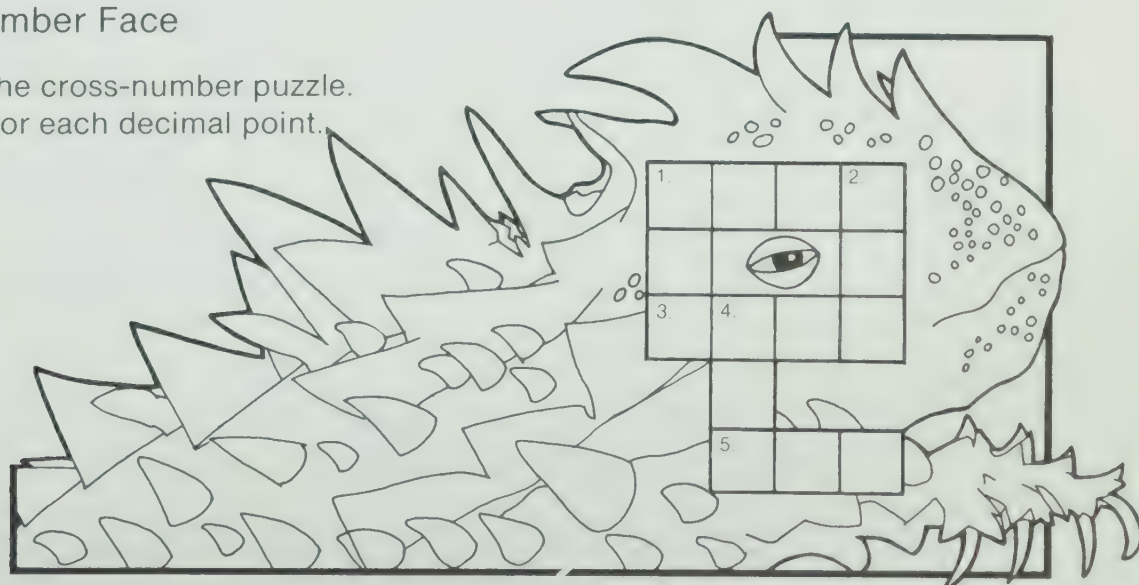
6. $\begin{array}{r} 8.4 \\ \times 4 \\ \hline \end{array}$

7. $\begin{array}{r} 9.6 \\ \times 5 \\ \hline \end{array}$

8. $\begin{array}{r} 4.5 \\ \times 6 \\ \hline \end{array}$

Cross-Number Face

Complete the cross-number puzzle.
Use a box for each decimal point.



Across

1. $\begin{array}{r} 2.9 \\ \times 6 \\ \hline \end{array}$

3. $\begin{array}{r} 6.2 \\ \times 8 \\ \hline \end{array}$

5. $\begin{array}{r} 4.9 \\ \times 2 \\ \hline \end{array}$

Down

1. $\begin{array}{r} 1.4 \\ \times 1 \\ \hline \end{array}$

2. $\begin{array}{r} 2.3 \\ \times 2 \\ \hline \end{array}$

4. $\begin{array}{r} 3.3 \\ \times 3 \\ \hline \end{array}$

NAME _____

Rounding to Estimate Sums and Products

Laura's car uses 15.4 L of fuel for each trip to the country. Estimate the number of litres used for 8 trips to the country.



Round the number of litres to the nearest whole number.

15.4 → 15

Multiply.

$$\begin{array}{r} 15 \\ \times 8 \\ \hline 120 \end{array}$$

The car will use about 120 L of fuel.

Round each addend to the nearest whole number. Add to estimate each sum.

•

1.
$$\begin{array}{r} 4.6 \\ 7.3 \\ + 5.5 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 3.9 \\ 6.1 \\ + 9.4 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 9.5 \\ 10.1 \\ + 8.6 \\ \hline \end{array}$$

Round to the nearest whole number and multiply.

••

4.
$$\begin{array}{r} 5.8 \\ \times 3 \\ \hline \end{array}$$

5.
$$\begin{array}{r} 1.9 \\ \times 5 \\ \hline \end{array}$$

6.
$$\begin{array}{r} 36.2 \\ \times 4 \\ \hline \end{array}$$

Kangaroo Code

| | | | | | |
|----|----|----|---|----|----|
| 50 | 15 | 49 | 6 | 13 | 18 |
| P | E | Y | L | R | A |

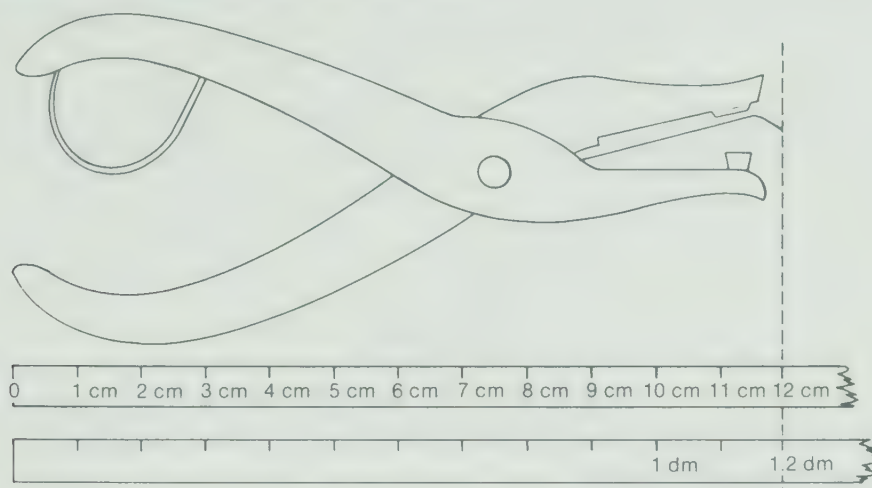
Round each decimal to the nearest whole number.
Add or multiply to answer the riddle.
What is the best year for a kangaroo?

| | | | |
|---|--|--|---|
| $\begin{array}{r} 2.6 \\ + 3.4 \\ \hline \end{array}$ | $\begin{array}{r} 4.9 \\ \times 3 \\ \hline \end{array}$ | $\begin{array}{r} 12.5 \\ + 4.8 \\ \hline \end{array}$ | $\begin{array}{r} 25.1 \\ \times 2 \\ \hline \end{array}$ |
| | | | |
| | | | |

| | | | |
|--|---|--|--|
| $\begin{array}{r} 6.6 \\ \times 7 \\ \hline \end{array}$ | $\begin{array}{r} 8.4 \\ + 7.1 \\ \hline \end{array}$ | $\begin{array}{r} 8.5 \\ \times 2 \\ \hline \end{array}$ | $\begin{array}{r} 10.1 \\ + 2.7 \\ \hline \end{array}$ |
| | | | |
| | | | |

Metres, Decimetres, Centimetres, and Decimals

The hole punch is 12 cm or 1.2 dm long.



The hole punch measures

| cm | dm | m |
|----|-----|------|
| 12 | 1.2 | 0.12 |

Complete the chart.

•

| | cm | dm | m |
|----|-----|-----|------|
| 1. | 182 | | 1.82 |
| 2. | | 3.5 | |
| 3. | 4 | 0.4 | |
| 4. | | | 0.67 |
| 5. | 329 | | |

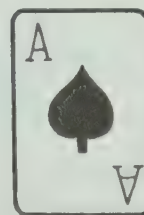
$$10 \text{ cm} = 1 \text{ dm}$$

$$10 \text{ dm} = 1 \text{ m}$$

$$100 \text{ cm} = 1 \text{ m}$$

Circle the objects that you would measure in metres.

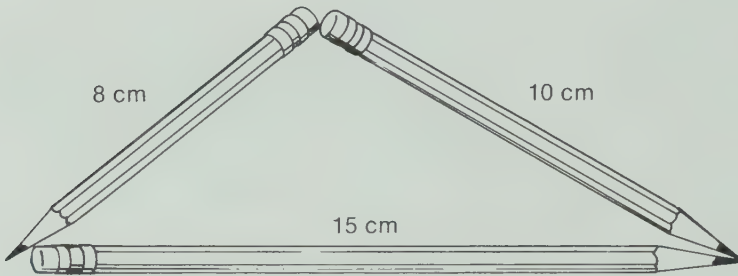
Put a box around the objects that you would measure in centimetres.



NAME _____

Finding the Perimeter

The three pencils are 8 cm, 10 cm, and 15 cm long.
What is the distance around this triangle?



Add

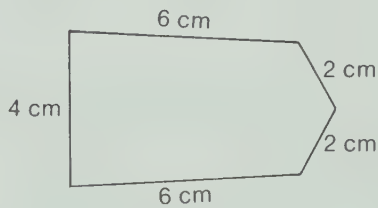
$$\begin{array}{r} 8 \\ 10 \\ + 15 \\ \hline 33 \end{array}$$

The distance around a figure is called the perimeter.
The perimeter of this triangle is 33 cm.

Find the perimeter of each shape.

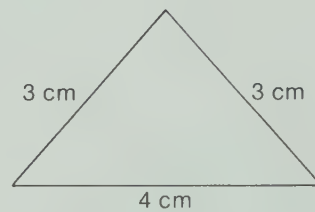


1.



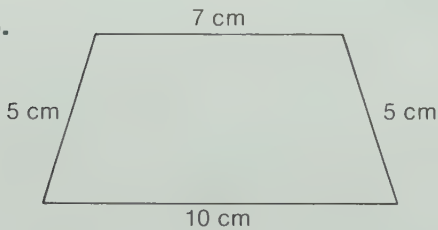
P = _____

2.



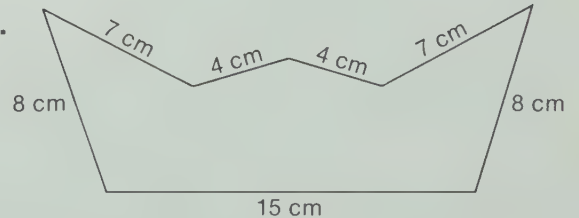
P = _____

3.



P = _____

4.

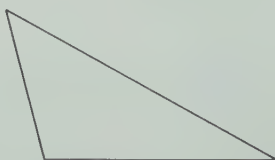


P = _____

Use a ruler to measure the sides of each figure. Find the perimeter.



5.



P = _____

6.



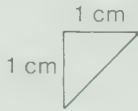
P = _____

Area in Square Centimetres

This is a square centimetre.
We write 1 cm^2 .



This is one half of a cm^2 .



Two halves of a cm^2 is 1 cm^2 .



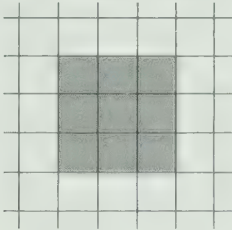
The area of a figure is the number of square centimetres inside the figure.
The area of this figure is 7 cm^2 .



Find the area of each shaded region. Each square represents 1 cm^2 .

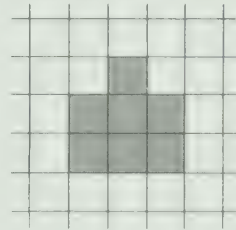


1.



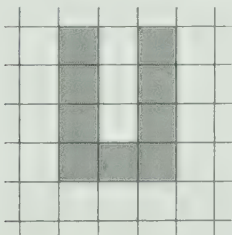
A = _____

2.



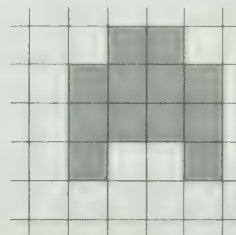
A = _____

3.



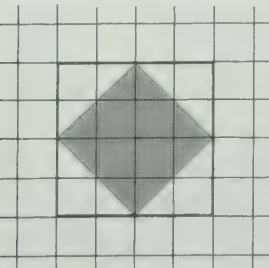
A = _____

4.



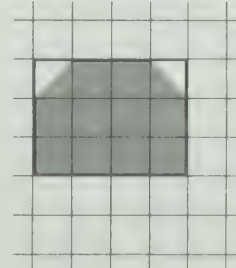
A = _____

5.



A = _____

6.

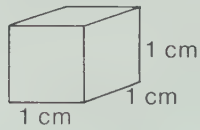


A = _____

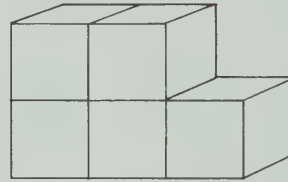
NAME _____

Volume in Cubic Centimetres

The volume of a figure is the number of cubic centimetres inside a figure.



This is a cubic centimetre.
We write 1 cm^3 .

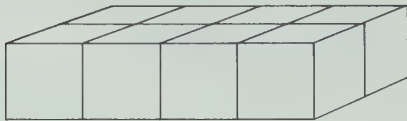


The volume of this figure is 5 cm^3 .

What is the volume of each figure?

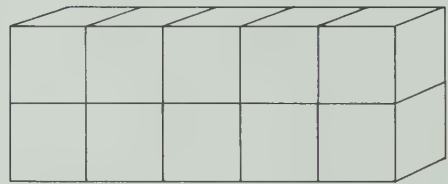


1.



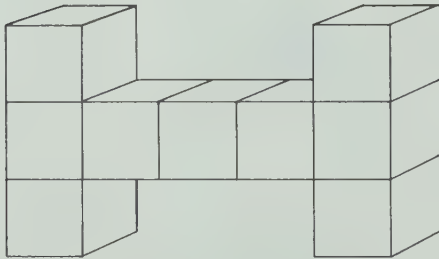
$V =$ _____

2.



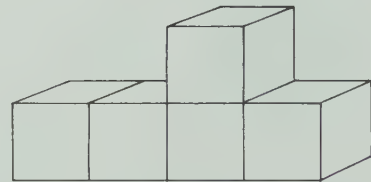
$V =$ _____

3.



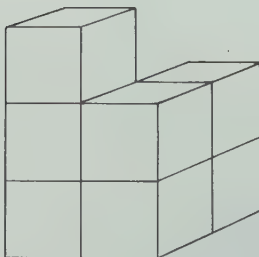
$V =$ _____

4.



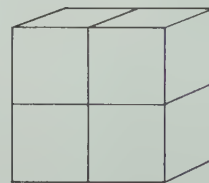
$V =$ _____

5.



$V =$ _____

6.



$V =$ _____

Multiplying Two-Digit Numbers

8 classes from Bowne School are going on a trip.
There are 27 students in each of the 8 classes.
How many students are going on the trip?



Multiply 8 and 27.

Multiply the ones.

$$\begin{array}{r} 5 \\ 27 \\ \times 8 \\ \hline 6 \end{array}$$

$8 \times 7 \text{ ones} = 56 \text{ ones}$

Regroup 56 ones as
6 ones 5 tens.

Multiply the tens.

$$\begin{array}{r} 5 \\ 27 \\ \times 8 \\ \hline 216 \end{array}$$

$8 \times 2 \text{ tens} = 16 \text{ tens}$
 $16 \text{ tens} + 5 \text{ tens} = 21 \text{ tens}$

There are 216 students going on the trip.

Multiply.

- | | | | |
|--|--|--|--|
| 1. $\begin{array}{r} 57 \\ \times 3 \\ \hline \end{array}$ | 2. $\begin{array}{r} 14 \\ \times 5 \\ \hline \end{array}$ | 3. $\begin{array}{r} 70 \\ \times 4 \\ \hline \end{array}$ | 4. $\begin{array}{r} 43 \\ \times 6 \\ \hline \end{array}$ |
| 5. $\begin{array}{r} 32 \\ \times 8 \\ \hline \end{array}$ | 6. $\begin{array}{r} 29 \\ \times 6 \\ \hline \end{array}$ | 7. $\begin{array}{r} 51 \\ \times 3 \\ \hline \end{array}$ | 8. $\begin{array}{r} 45 \\ \times 9 \\ \hline \end{array}$ |

Find the 5 products. Cross out each digit of the products in the strip of digits. When you have finished, all digits should be crossed out.

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 2 | 2 | 2 | 3 | 4 | 5 | 5 | 7 | 8 | 8 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

- | | | | | |
|--|---|---|---|---|
| 9. $\begin{array}{r} 26 \\ \times 3 \\ \hline \end{array}$ | 10. $\begin{array}{r} 47 \\ \times 6 \\ \hline \end{array}$ | 11. $\begin{array}{r} 39 \\ \times 8 \\ \hline \end{array}$ | 12. $\begin{array}{r} 74 \\ \times 7 \\ \hline \end{array}$ | 13. $\begin{array}{r} 51 \\ \times 9 \\ \hline \end{array}$ |
|--|---|---|---|---|

Multiplying Three-Digit Numbers

Multiply 472 and 5.

Multiply the ones.

$$\begin{array}{r} 1 \\ 472 \\ \times 5 \\ \hline 0 \end{array}$$

$5 \times 2 \text{ ones} = 10 \text{ ones}$

Regroup 10 ones as 0 ones 1 ten.

Multiply the tens.

$$\begin{array}{r} 31 \\ 472 \\ \times 5 \\ \hline 60 \end{array}$$

$5 \times 7 \text{ tens} = 35 \text{ tens}$

$35 \text{ tens} + 1 \text{ ten} = 36 \text{ tens}$

Regroup 36 tens as 3 hundreds 6 tens.

Multiply the hundreds.

$$\begin{array}{r} 31 \\ 472 \\ \times 5 \\ \hline 2360 \end{array}$$

$5 \times 4 \text{ hundreds} = 20 \text{ hundreds}$

$20 \text{ hundreds} + 3 \text{ hundreds} = 23 \text{ hundreds}$

Multiply.

•

1. $\begin{array}{r} 531 \\ \times 4 \\ \hline \end{array}$

2. $\begin{array}{r} 259 \\ \times 3 \\ \hline \end{array}$

3. $\begin{array}{r} 187 \\ \times 5 \\ \hline \end{array}$

4. $\begin{array}{r} 346 \\ \times 2 \\ \hline \end{array}$

Solve the problems.

Complete the cross-number puzzle.

| | | | | |
|---|--|---|---|--|
| A | | B | C | |
| | | D | | |
| E | | | | |
| | | F | | |

Across

A. $\begin{array}{r} 453 \\ \times 8 \\ \hline \end{array}$

D. $\begin{array}{r} 103 \\ \times 7 \\ \hline \end{array}$

E. $\begin{array}{r} 691 \\ \times 3 \\ \hline \end{array}$

F. $\begin{array}{r} 102 \\ \times 2 \\ \hline \end{array}$

Down

A. $\begin{array}{r} 538 \\ \times 6 \\ \hline \end{array}$

B. $\begin{array}{r} 924 \\ \times 3 \\ \hline \end{array}$

C. $\begin{array}{r} 846 \\ \times 5 \\ \hline \end{array}$

Estimating Products

We can estimate the product of 235 and 6.

Round 235 to the nearest ten.

$$\begin{array}{r} 235 \rightarrow 240 \\ \times \quad 6 \\ \hline 1440 \end{array}$$

Round 235 to the nearest hundred.

$$\begin{array}{r} 235 \rightarrow 200 \\ \times \quad 6 \\ \hline 1200 \end{array}$$

To the nearest ten, the product is 1440.

To the nearest hundred, the product is 1200.

Round the greater number to the nearest ten.

Then multiply to estimate each product.



1. $\begin{array}{r} 67 \\ \times 3 \\ \hline \end{array}$

2. $\begin{array}{r} 71 \\ \times 5 \\ \hline \end{array}$

3. $\begin{array}{r} 45 \\ \times 6 \\ \hline \end{array}$

Round the greater number to the nearest hundred.

Then multiply to estimate each product.



4. $\begin{array}{r} 261 \\ \times 7 \\ \hline \end{array}$

5. $\begin{array}{r} 509 \\ \times 6 \\ \hline \end{array}$

6. $\begin{array}{r} 349 \\ \times 9 \\ \hline \end{array}$

The numbers in the boxes are the answers to the multiplication problems below. Round the first number in each problem to the nearest hundred and estimate the product. After you have estimated, try to guess which box has the product. Write your estimate in the box. Multiply to check your guesses.

7. $\begin{array}{r} 319 \\ \times 6 \\ \hline \end{array}$

8. $\begin{array}{r} 392 \\ \times 5 \\ \hline \end{array}$

9. $\begin{array}{r} 490 \\ \times 3 \\ \hline \end{array}$

10. $\begin{array}{r} 805 \\ \times 2 \\ \hline \end{array}$

| | |
|---------------|---------------|
| 1914
_____ | 1960
_____ |
| 1610
_____ | 1470
_____ |



10, 100, and 1000 as Factors

Multiply 32 and 400.

Think.

$$\begin{array}{r} 32 \\ \times 4 \\ \hline 128 \end{array}$$

so, $32 \times 4 \text{ hundreds} = 128 \text{ hundreds}$
 $32 \times 400 = 12\,800$

$$\begin{array}{r} 32 \\ \times 400 \\ \hline 12\,800 \end{array}$$

Complete each pattern.



1. $\begin{array}{r} 28 \\ \times 2 \\ \hline \end{array}$

$\begin{array}{r} 28 \\ \times 20 \\ \hline \end{array}$

$\begin{array}{r} 28 \\ \times 200 \\ \hline \end{array}$

2. $\begin{array}{r} 41 \\ \times 3 \\ \hline \end{array}$

$\begin{array}{r} 41 \\ \times 30 \\ \hline \end{array}$

$\begin{array}{r} 41 \\ \times 300 \\ \hline \end{array}$

Multiply.



3. $\begin{array}{r} 17 \\ \times 20 \\ \hline \end{array}$

4. $\begin{array}{r} 37 \\ \times 30 \\ \hline \end{array}$

5. $\begin{array}{r} 56 \\ \times 60 \\ \hline \end{array}$

6. $\begin{array}{r} 72 \\ \times 80 \\ \hline \end{array}$



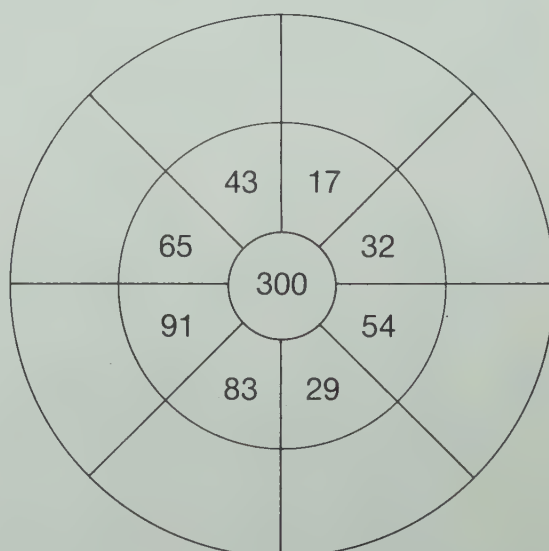
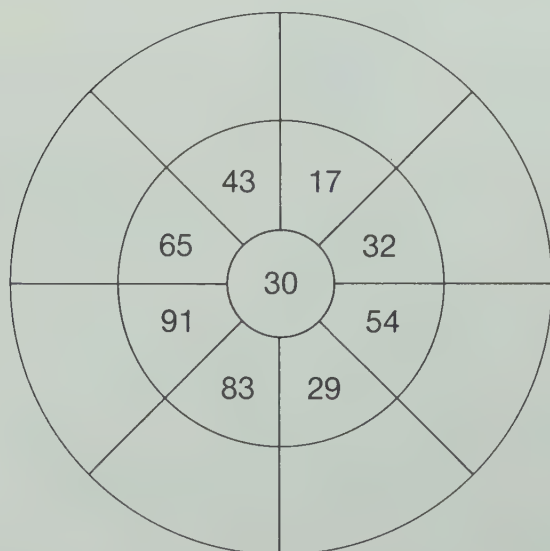
7. $\begin{array}{r} 43 \\ \times 500 \\ \hline \end{array}$

8. $\begin{array}{r} 12 \\ \times 400 \\ \hline \end{array}$

9. $\begin{array}{r} 24 \\ \times 700 \\ \hline \end{array}$

10. $\begin{array}{r} 69 \\ \times 100 \\ \hline \end{array}$

Multiply each number by the number in the centre. Write the answers in the outer ring.



Using Multiplication to Divide

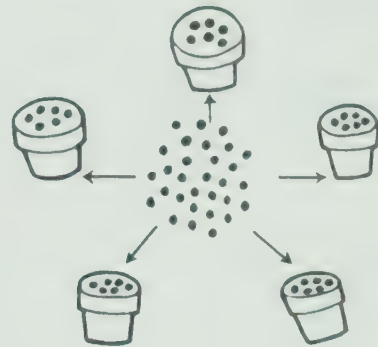
Marge plants 30 seeds in 5 flowerpots.
She plants the same number in each pot.
How many seeds are in each pot?

Divide 30 by 5.

$5 \overline{)30}$

Think.
 $5 \times ? = 30$
 $5 \times 6 = 30$

$5 \times 6 = 30$



There are 6 seeds in each pot.

Complete the multiplication facts. Then divide.

- 1. $9 \times \underline{\hspace{1cm}} = 36$
2. $6 \times \underline{\hspace{1cm}} = 42$
3. $4 \times \underline{\hspace{1cm}} = 20$

$9 \overline{)36}$

$6 \overline{)42}$

$4 \overline{)20}$

- 4. $5 \times \underline{\hspace{1cm}} = 45$
5. $9 \times \underline{\hspace{1cm}} = 72$
6. $8 \times \underline{\hspace{1cm}} = 56$

$5 \overline{)45}$

$9 \overline{)72}$

$8 \overline{)56}$

Here is a code.

| | | | | | | | |
|------|---|------|---|------|------|---|------|
| 6 R1 | 9 | 2 R3 | 7 | 5 R1 | 3 R1 | 2 | 4 R4 |
| I | E | H | L | R | S | T | O |

Divide or multiply to complete the riddle.
The pony was quiet because he was a

| | | | | | |
|--------------------|--------------------|--------------------|--|--|--------------------|
| $4 \overline{)28}$ | $8 \overline{)49}$ | $9 \overline{)18}$ | $9 \times \underline{\hspace{1cm}} = 18$ | $4 \times \underline{\hspace{1cm}} = 28$ | $3 \overline{)27}$ |
| | | | | | |
| | | | | | |

| | | | | |
|--------------------|--------------------|--------------------|-------------------|--|
| $6 \overline{)15}$ | $5 \overline{)24}$ | $7 \overline{)36}$ | $2 \overline{)7}$ | $3 \times \underline{\hspace{1cm}} = 27$ |
| | | | | |
| | | | | |

Sharing Hundreds, Tens, and Ones

Divide 693 by 3.

Share the hundreds.

$$\begin{array}{r} 200 \\ 3 \overline{) 693} \\ \underline{600} \\ 93 \end{array}$$

Think
 $3 \times 2 = 6$
 $3 \times 2 \text{ hundreds} = 6 \text{ hundreds}$
 $3 \times 200 = 600$

Still to share

Share the tens.

$$\begin{array}{r} 30 \\ 200 \\ 3 \overline{) 693} \\ \underline{600} \\ 93 \\ \underline{90} \\ 3 \end{array}$$

Think
 $3 \times 3 = 9$
 $3 \times 3 \text{ tens} = 9 \text{ tens}$
 $3 \times 30 = 90$

Still to share

Share the ones.

$$\begin{array}{r} 1 \\ 30 \\ 200 \\ 3 \overline{) 693} \\ \underline{600} \\ 93 \\ \underline{90} \\ 3 \\ \underline{3} \\ 0 \end{array}$$

Add

When 693 is divided by 3, the quotient is 231.

Divide.



1. $4 \overline{) 844}$

2. $6 \overline{) 606}$

3. $3 \overline{) 936}$

4. $2 \overline{) 846}$



5. $7 \overline{) 770}$

6. $2 \overline{) 426}$

7. $4 \overline{) 448}$

8. $3 \overline{) 339}$

What Is the Mystery Digit?

Find the 5 quotients. Cross out each digit in the strip of digits.
When you have finished, only the mystery digit will be left.

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

9. $4 \overline{) 444}$

10. $3 \overline{) 369}$

11. $2 \overline{) 422}$

12. $3 \overline{) 993}$

13. $4 \overline{) 884}$

Regrouping Tens

Divide 60 by 4.

Share the tens.

$$\begin{array}{r} 10 \\ 4 \overline{) 60} \\ \underline{40} \\ 20 \end{array}$$

Think
 $4 \times 1 = 4$
 $4 \times 2 = 8$
 (too many)

Still to share
 Regroup 2 tens 0 ones
 as 20 ones.

Share the ones.

$$\begin{array}{r} 5 \\ 10 \\ 4 \overline{) 60} \\ \underline{40} \\ 20 \\ \underline{20} \\ 0 \end{array}$$

Think
 $4 \times 5 = 20$

Add to get the quotient.

$$\begin{array}{r} 5 \\ + 10 \\ \hline 15 \end{array}$$

When 60 is divided by 4, the quotient is 15.

Divide.



1. $5 \overline{) 70}$

2. $3 \overline{) 81}$

3. $2 \overline{) 52}$

4. $4 \overline{) 96}$



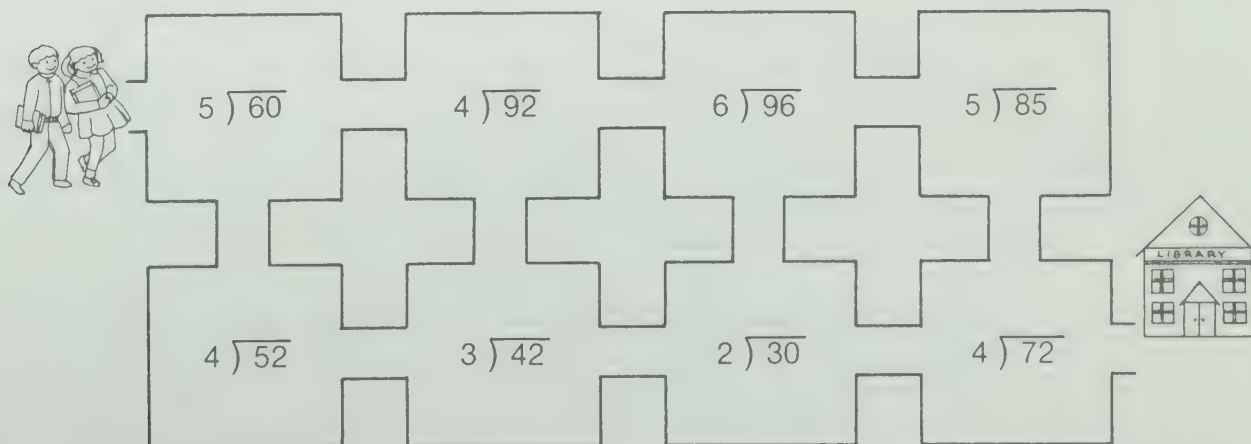
5. $6 \overline{) 96}$

6. $7 \overline{) 84}$

7. $8 \overline{) 96}$

8. $3 \overline{) 57}$

Divide. Then follow the quotients in order from 12 to 18 to find the path the children take to the library.



Regrouping Hundreds

Divide 305 by 5.

Share the hundreds.

$$5 \overline{) 305}$$

$3 < 5$, so regroup
3 hundreds 0 tens as
30 tens.

Share the tens.

$$5 \overline{) 305}$$

60
300
5

Think
 $5 \times 6 = 30$
 $5 \times 6 \text{ tens} = 30 \text{ tens}$
 $5 \times 60 = 300$

still to share

Share the ones.

$$5 \overline{) 305}$$

1 } Add.
60
300
5
5
0

When 305 is divided by 5, the quotient is 61.

Match the hundreds, tens, and ones with the equivalent tens and ones.



1. 3 hundreds 6 tens 4 ones
2. 7 hundreds 5 tens 2 ones
3. 2 hundreds 8 tens 1 one
4. 4 hundreds 3 tens 3 ones
5. 3 hundreds 4 tens 6 ones

- 75 tens 2 ones
- 43 tens 3 ones
- 34 tens 6 ones
- 36 tens 4 ones
- 28 tens 1 one

Divide.



6. $2 \overline{) 184}$

7. $3 \overline{) 219}$

8. $4 \overline{) 208}$

9. $6 \overline{) 306}$



10. $6 \overline{) 426}$

11. $7 \overline{) 147}$

12. $3 \overline{) 273}$

13. $4 \overline{) 284}$



Finding an Average

Kevin's grades on his math tests are 95, 82, 79, and 92.
Find the average of the 4 tests.

Add the 4 test scores.

$$\begin{array}{r} 95 \\ 82 \\ 79 \\ + 92 \\ \hline 348 \end{array}$$

Divide the total by the number of tests.

$$\begin{array}{r} 7 \\ 80 \} 87 \\ 4 \overline{) 348} \\ \underline{320} \\ 28 \\ \underline{28} \\ 0 \end{array}$$

Kevin's average is 87.

Find the average.



1. The temperature on 3 days was 24° C, 20° C, and 25° C.

Add. Divide.

2. Prices for four gifts are \$15, \$26, \$35, and \$40.

Add. Divide.

average temperature _____

average price _____

Divide to find the average.



3. 235 students ride to school on 5 buses.

4. 245 books on 7 shelves.



5. 96 students in 3 classes.

6. 116 stamps on 4 pages.

Division Practice

Divide 273 by 6.

Share the hundreds.

$$6 \overline{) 273}$$

$2 < 6$, so regroup
2 hundreds 7 tens as
27 tens.

Share the tens.

$$\begin{array}{r} 4 \\ 6 \overline{) 273} \\ \underline{240} \\ 33 \end{array}$$

Think
 $6 \times 4 = 24$
 $6 \times 4 \text{ tens} = 24 \text{ tens}$
 $6 \times 40 = 240$

Regroup the 3 tens 3 ones
as 33 ones.

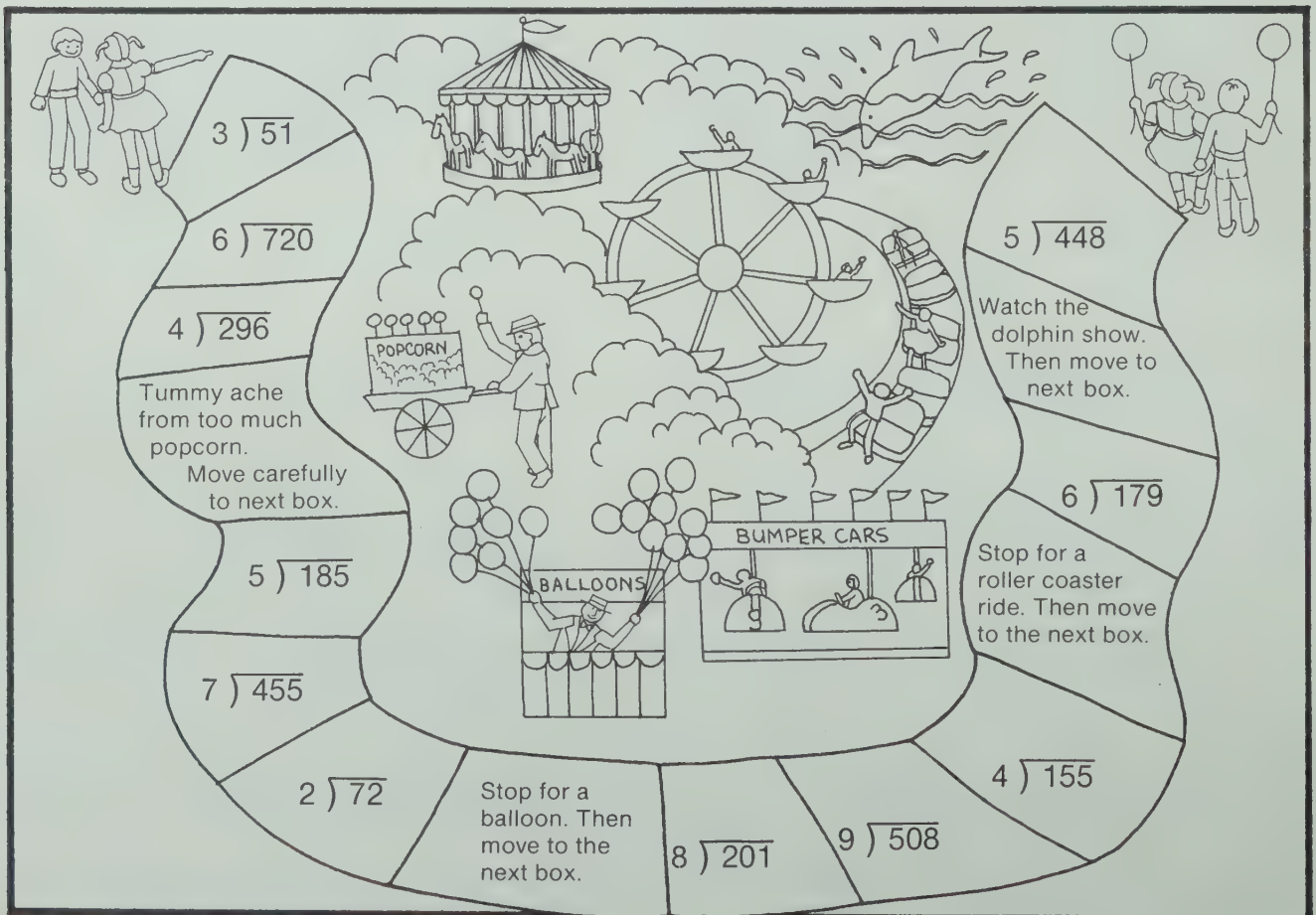
Share the ones.

$$\begin{array}{r} 45 \text{ R}3 \\ 6 \overline{) 273} \\ \underline{240} \\ 33 \\ \underline{30} \\ 3 \end{array}$$

Think
 $6 \times 5 = 30$

Write the remainder.

Travel the path of the amusement park by solving the problems in
order from entrance to exit.



Telling Time to the Minute

At what time does the next show start?



The long hand is the minute hand.
The long hand shows 41 min.

The next show starts at 3:41.

What time is it?

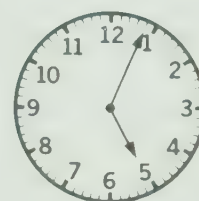
1.



2.



3.



4.



5.



6.



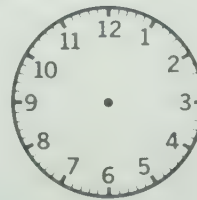
Show each time by drawing the hands.

7.



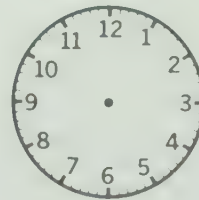
12:16

8.



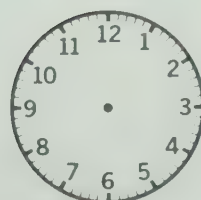
7:58

9.



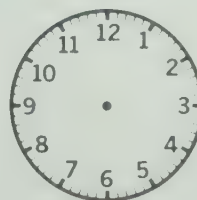
2:03

10.



3:27

11.



5:49

12.



8:36

Capacity in Millilitres and Litres

Capacity is measured in millilitres (mL) and litres (L).

This holds about one millilitre.



This holds about one litre.



1000 millilitres equal 1 litre
 $1000 \text{ mL} = 1 \text{ L}$

Circle the best estimate for the capacity of each.



1. the gas tank of a car

50 mL

50 L

2. a medicine dropper

2 mL

2 L

3. a container of juice

2 mL

2 L

4. a walnut shell

5 mL

5 L

5. a drop of rain

1 mL

1 L

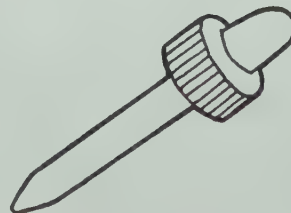
6. a bucket of water

16 mL

16 L

Put an X on objects that hold about 1 L.

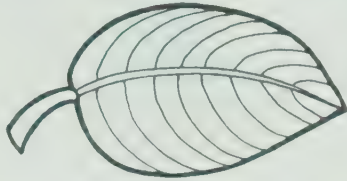
Put a box around objects that hold about 1 mL.



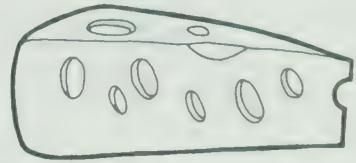
Mass in Grams and Kilograms

Mass is measured in grams (g) and kilograms (kg).

This has a mass of about one gram.



This has a mass of about one kilogram.



1000 grams equal 1 kilogram
 $1000\text{ g} = 1\text{ kg}$

Circle the best estimate for the mass of each.



1. a paper clip

1 g 1 kg

2. a can of juice

1 g 1 kg

3. a vacuum cleaner

10 g 10 kg

4. a ball point pen

5 g 5 kg

5. a marble

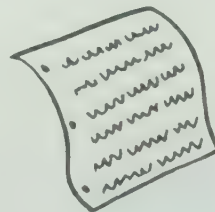
2 g 2 kg

6. a book

1 g 1 kg

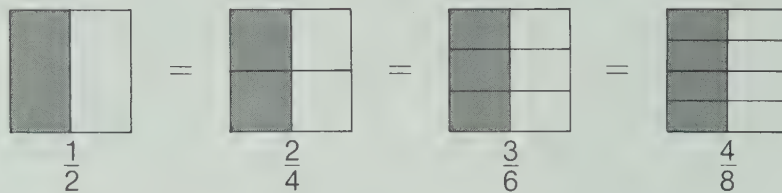
Put an X on objects whose mass is about 1 kg.

Put a box around objects whose mass is about 1 g.



Equivalent Fractions

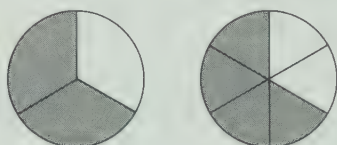
Different fractions can name the same amount.
In each of these pictures the same amount is shaded.



Name equivalent fractions.

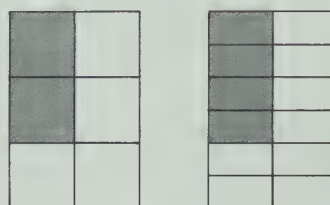


1.



$$\frac{2}{3} = \frac{4}{6}$$

2.



$$\frac{2}{6} = \frac{4}{12}$$



3.



$$\frac{3}{5} = \frac{6}{10}$$

4.



$$\frac{2}{3} = \frac{4}{6}$$

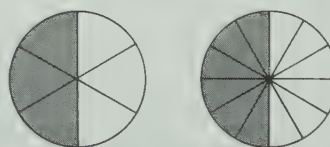


5.



$$\frac{1}{4} = \frac{2}{8}$$

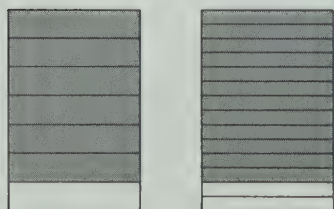
6.



$$\frac{3}{6} = \frac{6}{12}$$

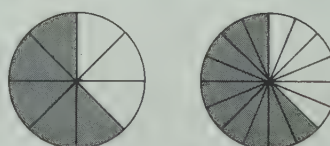


7.



$$\frac{9}{10} = \frac{18}{20}$$

8.



$$\frac{5}{8} = \frac{10}{16}$$

$$\frac{1}{2} = \frac{4}{8}$$



$$\frac{3}{2} = \frac{6}{4}$$



$$\frac{6}{12} = \frac{7}{14}$$



$$\frac{5}{6} = \frac{10}{12}$$



Finding Information

Use this table of mountain heights for exercises 1 to 5.

| Heights of Some Mountains
(metres) | | | |
|---------------------------------------|------|--------------|------|
| Aconcagua | 6959 | Mt. Logan | 5950 |
| Mt. Everest | 8848 | Mt. Lucania | 5227 |
| Godwin-Austen | 8611 | Matterhorn | 4478 |
| Illampu | 6550 | Mt. McKinley | 6194 |
| Kilimanjaro | 5895 | Nanga Parbat | 8123 |

1. Which mountain listed is the highest? _____

2. Which mountain listed is the lowest? _____

3. Arrange the mountains in order of height, starting with the highest.

4. If you wanted more information about high mountains of the world, where would you look?

5. Look up one of the mountains in the list. Write a short report about it for your class.

Choosing the Information Needed

Use this price list for exercises 1 to 5.

| Green Thumb Price List | | | |
|------------------------|----------------|--------------|--------------|
| cabbage | 99¢ each | strawberries | \$2.59 a box |
| iceberg lettuce | \$1.25 each | carrots | 79¢ a bunch |
| romaine lettuce | 89¢ each | radishes | 47¢ a bunch |
| celery | \$1.12 a bunch | onions | \$2.59 a bag |
| apples | \$2.25 a bag | mushrooms | \$2.29 a box |

1. If you buy celery and apples, how much will your bill be?

2. Mrs. Newton bought strawberries, celery, and carrots. How much did she pay?

3. Judy got two kinds of lettuce and a box of mushrooms. How much did they cost?

4. How much will onions, cabbage, and carrots cost?

5. How much will celery, strawberries, and mushrooms cost?

6. Choose four items from the list and find the total cost.

Solving Problems in Two or More Steps

1. Mr. and Mrs. Billings and their two children are going on a trip. They drove 273 km on Monday and 416 km on Tuesday. They are making a trip of 1200 km. How much farther do they have to drive?

2. The gas tank of their car holds 52 L of gas. When they filled it up, it took 31 L. How much gas was in the tank already?

3. The gas cost \$14.78. They also spent \$3.65 on oil. How much change did they get from \$20?

4. At lunch one day they bought the following: 1 hamburger \$1.29, 1 hot dog 95¢, 1 tuna sandwich \$1.50, and 1 cheeseburger \$1.45. They also bought drinks. If the total bill was \$7.79, how much did the drinks cost?

5. One day they went to a museum. The tickets cost \$2.50 for adults and 60¢ for children. How much did it cost for all of them?

6. In the museum they saw a display of Indian arrowheads. In one case there were 35 arrowheads. In another case there were 18. How many arrowheads were there in all?

7. Carole bought some souvenirs to take home. She paid \$7.50 for them. She also bought a guide book that cost 95¢. If she had \$15.00 when they started, how much did she have left?

8. One day they drove from 8:30 to 12:00. They stopped for an hour and then drove until 3:45. How many hours did they drive in all that day?

Organizing Data

The students in Maria's class had a spelling quiz with ten words in it. This list shows how many words each student spelled correctly.

| | | | | | | |
|----|----|---|---|----|---|---|
| 10 | 9 | 7 | 5 | 10 | 8 | 8 |
| 6 | 10 | 9 | 7 | 9 | 6 | 8 |
| 9 | 8 | 7 | 8 | 8 | 6 | 9 |

Make a tally chart.

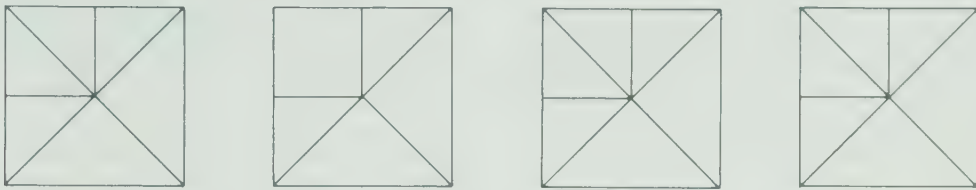
Use your tally chart for exercises 1 to 5.

1. How many students are in the class? _____
2. How many spelled exactly 4 words wrong? _____
3. How many spelled all the words right? _____
4. What score did only one student get? _____
5. Do you think that the test was easy or hard? _____

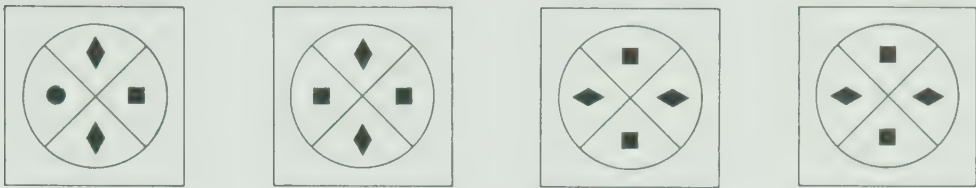
How Well Do You See?

In each row, check (✓) the figure that is different.

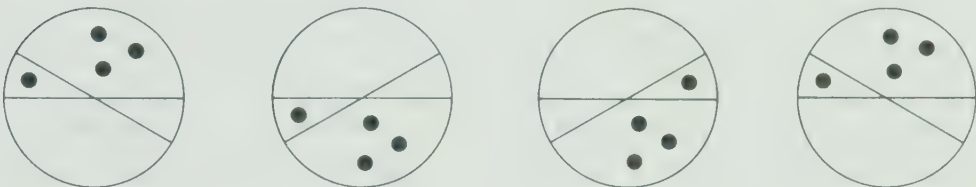
1.



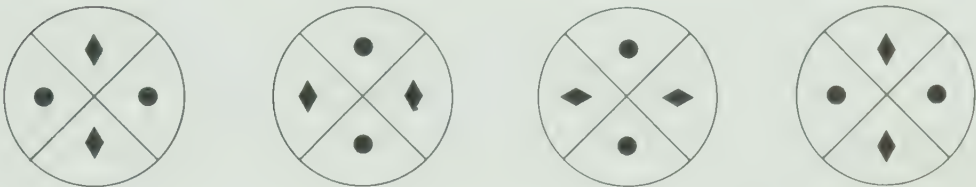
2.



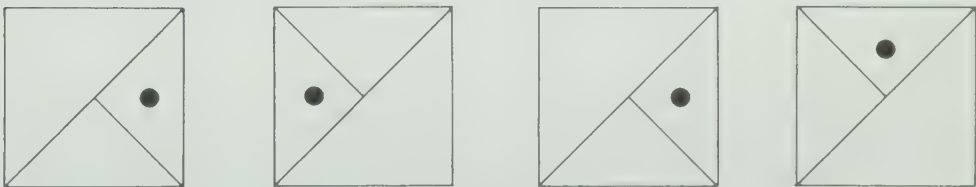
3.



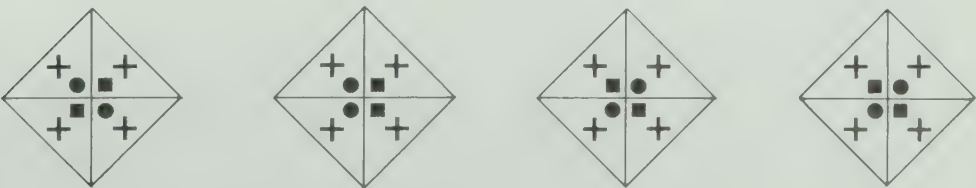
4.



5.



6.



Solving Problems in Two or More Steps

Solve the problems. Show each step you use.

1. Mr. Bruno had \$463 in his savings account. He withdrew (took out) \$89. Later he deposited (put in) \$102. What is the balance (amount) in his account now?

$$\begin{array}{r} \text{Step 1. } \$463 \\ - \quad 89 \\ \hline \end{array}$$

Step 2.

2. The O'Haras had \$659 in their chequing account. They wrote cheques for \$50, \$63.50, and \$17. How much is left?

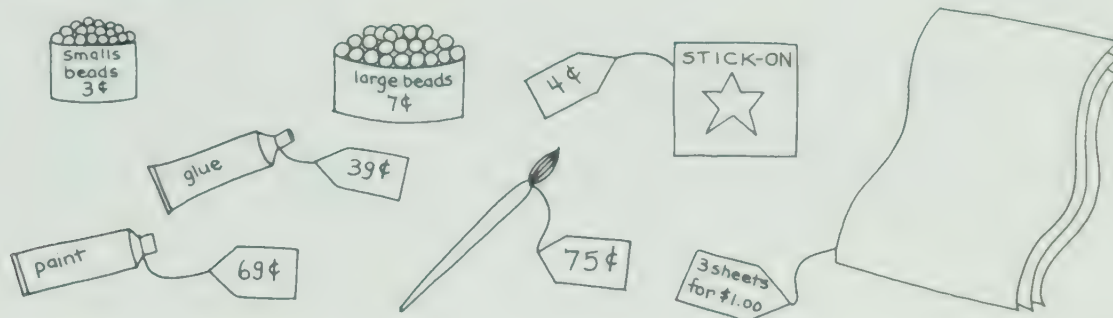
3. Mrs. O'Hara deposited her pay-cheque of \$135.62 in the account. (See exercise 2.) Then she wrote cheques for \$25 and \$41.75. What is the balance now?

4. Don gets an allowance of \$5 each week. He spends 40¢ a day at school during lunch time. One week he put \$1.50 in his savings and spent 65¢ for paint for his models. How much did he have left at the end of the week?

5. Barb bought a flashlight for \$3.98 and batteries for \$1.74. How much change did she get from \$10?

6. Carl is saving up for a radio that costs \$40. He has \$28.50 in his savings account, and received \$5 for his birthday. How much more does he need?

Writing Equations



For each exercise, write an equation. Use \square .

- Donna spent 49¢ on large beads. How many did she buy?

- Aldo spent \$2.00 on poster paper and 69¢ on a tube of paint. How much did he spend?

- If you bought 9 small beads, how much would they cost?

- Bob spent \$2.39. How much change should he get from \$5.00?

- James bought 16 beads. He is going to share them equally with his sister. How many beads will they each have?

- Grace had 13 small beads. She bought some more. Now she has 19. How many more did she buy?

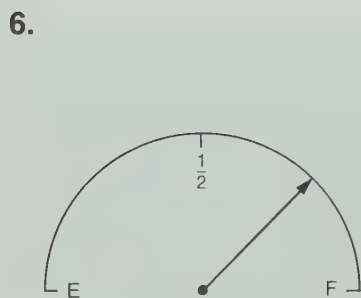
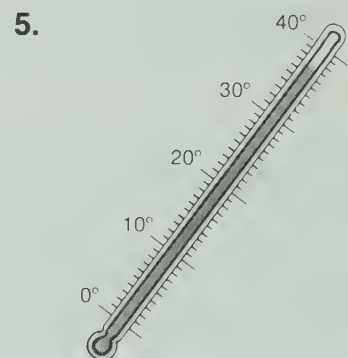
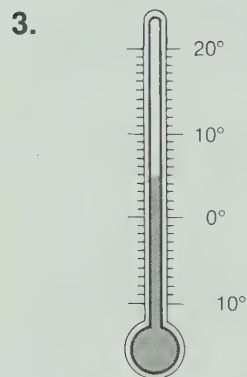
- Mark bought 5 stick-ons. Then he bought a tube of green paint. How much did he pay? Write two equations. Use \square and \bigcirc .

Solve all the equations. Write the answers below.

- | | | | |
|----------|----------|----------|----------|
| 1. _____ | 2. _____ | 3. _____ | 4. _____ |
| 5. _____ | 6. _____ | 7. _____ | _____ |

Reading a Scale

Write a number for the point marked on each scale.



Choosing the Operation

Circle the operation you would use to solve each problem.

1. There are ■ rows of desks.
There are ▲ desks in each row.
How many desks are there?
+ - × ÷
2. There are ■ desks. There are ▲ students sitting at desks. How many desks are empty?
+ - × ÷
3. In one desk there are ■ crayons.
There are ▲ crayons in another.
How many crayons are there in both?
+ - × ÷
4. There are ■ crayons in boxes. There are ▲ boxes with the same number of crayons. How many are there in each box?
+ - × ÷
5. Mrs. Miller got ■ packages of paper.
Each package holds ▲ sheets. How many sheets are there in all?
+ - × ÷
6. Adam had ▲ pencils. He got ■ more.
How many does he have now?
+ - × ÷
7. Jo-Ann is ■ years old. How old was she ▲ years ago?
+ - × ÷
8. Marty is ▲ years old. How old will he be ■ years from now?
+ - × ÷
9. There are ■ children going on a field trip. Each car can hold ▲ children.
How many cars are needed?
+ - × ÷
10. One bus can hold ■ passengers.
There are ▲ rows of seats. How many seats are in each row?
+ - × ÷

Guess and Test

What are the numbers?

1. The sum of 2 numbers is 13.
Their product is 40.

2. The product of 2 numbers is 12.
Their difference is 1.

3. The sum of 2 numbers is 26.
Their difference is 14.

4. The product of 2 numbers is 45.
Their difference is 12.

5. The difference of 2 numbers is 10.
Their sum is 20.

6. The quotient of 2 numbers is 5.
Their sum is 18.

7. The product of 3 numbers is 12.
Their sum is 7.

8. The sum of 2 numbers is 9.5.
Their difference is 3.1.

For each table give the rule. Then complete the table.

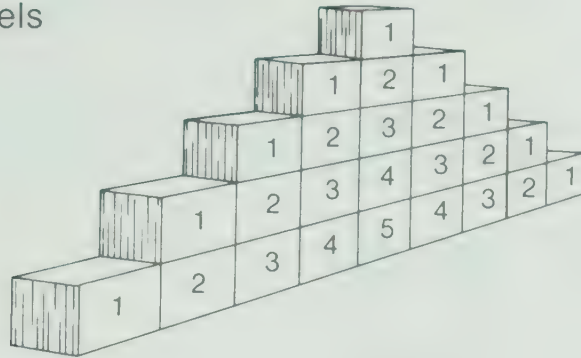
9.

| | | | | | | | | |
|---|---|----|----|---|----|----|----|----|
| 6 | 9 | 13 | 20 | | 16 | 35 | | 60 |
| 2 | 5 | 9 | 16 | 8 | | | 42 | |

10.

| | | | | | | | | |
|---|----|----|----|---|----|----|-----|-----|
| 2 | 4 | 5 | 7 | 8 | 11 | | 0.9 | 1.2 |
| 6 | 12 | 15 | 21 | | | 45 | | |

Working with Models



The tower is made of bricks. Each brick is numbered.

1. How many rows of bricks are there?

2. How many bricks are piled on top of a brick numbered 4?

3. How many bricks are in the fourth row? Count from the top.

4. How many bricks are in the fifth row? Count from the top.

5. What is the sum of the numbers on the bricks in the fifth row?

6. What is the number on the fourth brick in the fifth row? Count from the left.

7. What is the number on the seventh brick in the fifth row?

8. How many bricks are in the tower?

9. If the tower had 2 more rows, how many more bricks would it have?

NAME _____

Logical Thinking

1. Change arrangement **A** to arrangement **B** by turning over pairs of coins next to each other. Do it in the fewest number of moves.



2.

| |
|---|
| 2 |
| 3 |
| 4 |

| |
|---|
| 5 |
| 6 |
| 7 |

| |
|----|
| 8 |
| 9 |
| 10 |

Move one block to another pile so that the sums of all piles are equal.

3. A man buys a horse for \$60. He sells it for \$70, buys it back for \$80, and sells it again for \$90. How much did he make or lose?

4. Complete these addition tables.

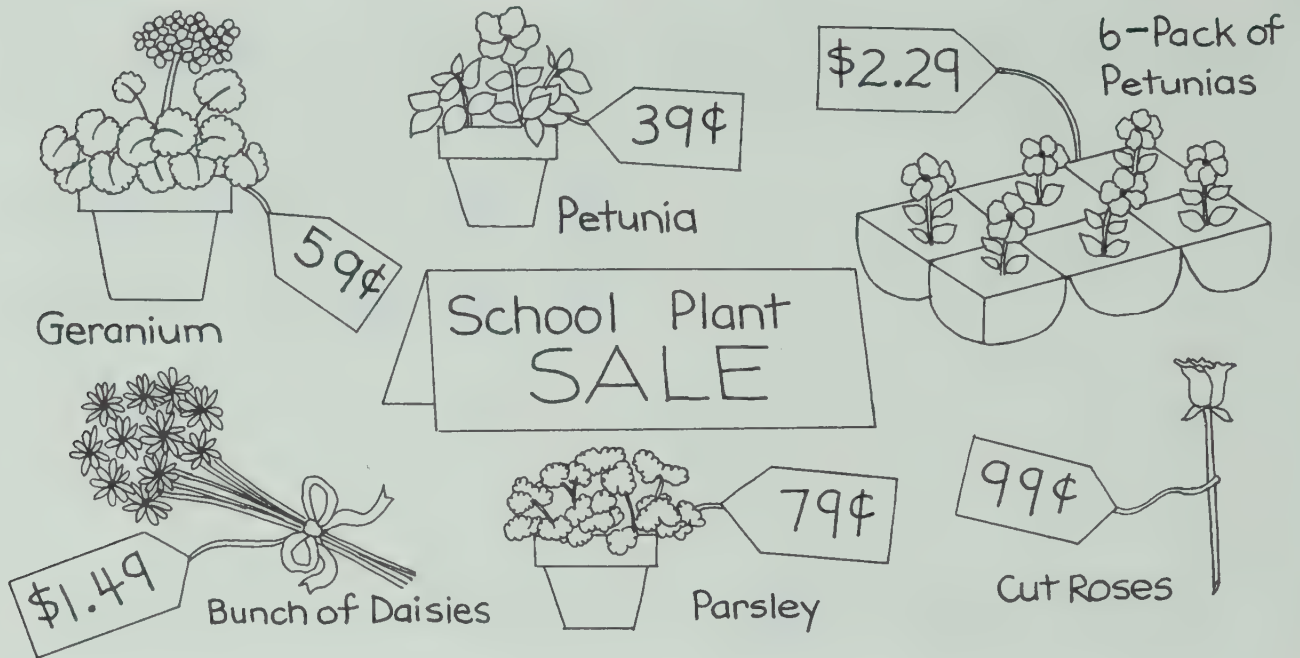
| | | | |
|---|---|----|----|
| + | | | |
| | 9 | | 10 |
| 7 | | 13 | |
| | | 8 | 11 |

| | | | | |
|---|----|----|----|----|
| + | | | | |
| | 14 | | | 27 |
| 9 | | | 22 | |
| | | 11 | | 18 |
| | 6 | | 15 | |

More Than One Solution

1. How many rectangles have an area of 36 cm^2 ? Use only whole numbers. Draw as many as you can.
2. How many rectangles can you draw with a perimeter of 36 cm ? Use only whole numbers.
3. You have three coins in your pocket. None of the coins has a value of more than 25¢ . How much money do you have?

Estimating Answers



What did each person buy? Estimate. Be sure to fill in all the blanks.

1. Peter spent 98¢. He bought _____ and _____.

2. Marcia spent \$1.78. She bought _____ and _____.

3. Mrs. Townshend spent \$3.08. She bought _____ and _____.

4. Mr. Malone spent \$2.08. He bought _____ and _____.

5. Joe spent \$2.88. He bought _____ and _____.

6. Franco spent \$2.47. He bought _____, _____, and _____.

7. Emma spent \$1.97. She bought _____, _____, and _____.

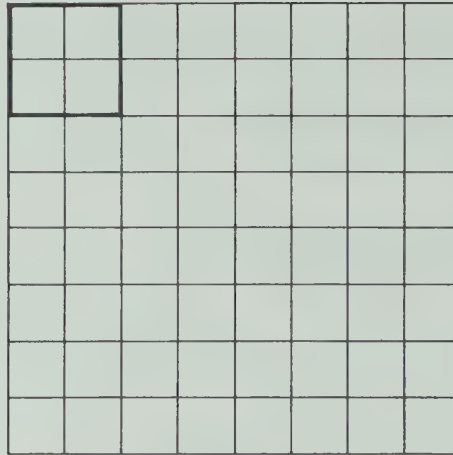
8. Pat spent \$3.87. He bought _____, _____, and _____.

Does the Statement Make Sense?

Place the decimal point in each number so that the statement makes sense.

1. Your math book is about 2000 mm wide. _____
2. Rosie played baseball for 0.32 h on Saturday. _____
3. The winner of the first "Indy 500" averaged 12004 km/h. _____
4. Mark practised his violin for 15 h yesterday. _____
5. Charlotte made 525 L of punch for her party. _____
6. Terry spent \$397 for her new ice skates. _____
7. Ruth's cocker spaniel has a mass of 1600 kg. _____
8. Jack rides 245 km on the school bus each day. _____
9. My pen is 0.135 cm long. _____
10. Four people had pizza for lunch. The total bill was \$125. _____
11. Margaret drank 25 mL of orange juice for breakfast. _____
12. Alex's brother is 160 m tall. _____

Planning a Solution



How many different squares in the 8×8 grid?

Follow these steps to solve.

1. Restate the problem in your own words.

2. List all the information you have. _____

3. Can you simplify the problem? _____

4. Can you make a table or a diagram? _____

5. Are there different sizes of squares? _____

6. Can you develop a pattern? _____

7. Make a guess at the answer. _____

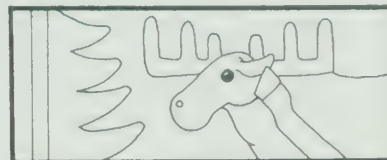
8. Try your best idea.

Number Fun

Solve the problems. Be careful!

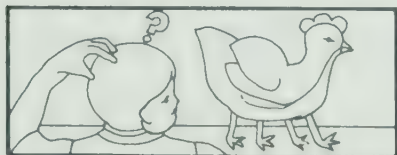
I'm a 3 digit number. All my digits are the same. When you add them the sum is 12. What number am I?

A moose can hear a man 6 km away. How far away can 2 moose hear a man?



Marge counted 6 cows and chickens. She also counted a total of 20 legs. How many cows are there?

I am the smallest 5 digit number you can make from 85020. What number am I?

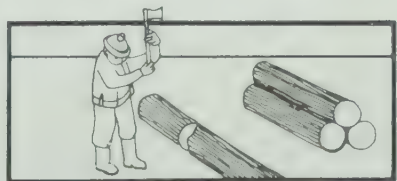


I am thinking of 2 numbers. Their sum is 46. Their difference is 0. What are the numbers?

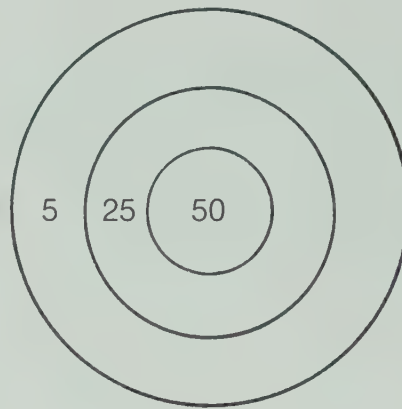
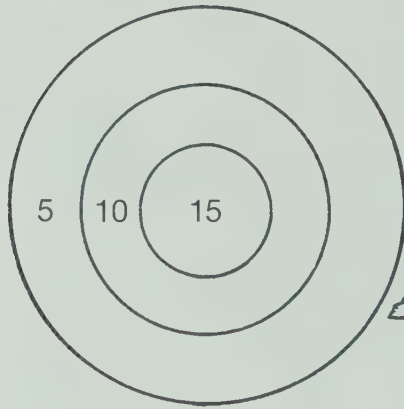
I am a fraction that is equal to 1. My denominator is 4. What fraction am I?

It takes John 6 min to cut a log into 2 pieces. How long will it take him to cut a log into 3 pieces?

I am a 3 digit number with a 6 in the one's place. When rounded to the nearest 100, I am 400. When rounded to the nearest 10, I am 450. What number am I?



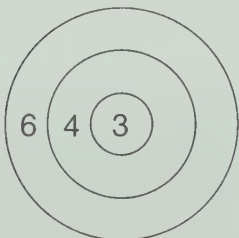
Darts



Fred and Sue each threw 3 darts.

1. Sue scored 35 points. Where did her darts land?

2. Fred scored 30 points. Where did his darts land?



Fred and Sue each threw 5 darts.

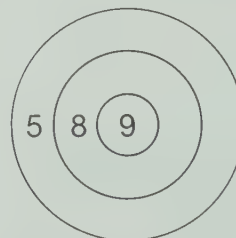
5. Sue scored 23 points. Where did her darts land?

6. Fred scored 22 points. Where did his darts land?

Fred and Sue each threw 3 darts.

3. Sue scored 55 points. Where did her darts land?

4. Fred scored 60 points. Where did his darts land?



Fred and Sue each threw 5 darts.

7. Sue scored 33 points. Where did her darts land?

8. Fred scored 36 points. Where did his darts land?

9. What was Sue's total score for all the games? _____

10. What was Fred's total score for all the games? _____

Missing Digits

Put digits in the shapes to make the problems correct.
If the shapes are the same in a given problem,
then the same digit goes in each shape.

$$\begin{array}{r} 1. \quad \square 9 \\ + 2 \triangle \\ \hline 93 \end{array}$$

$$\begin{array}{r} 2. \quad 3 \square \\ + \triangle 4 \\ \hline 61 \end{array}$$

$$\begin{array}{r} 3. \quad 4 \square \\ + \square \square \\ \hline 100 \end{array}$$

$$\begin{array}{r} 4. \quad 5 \triangle 2 \\ + \square \square \triangle \\ \hline 960 \end{array}$$

$$\begin{array}{r} 5. \quad \square 7 \triangle \\ + 29 \triangle \\ \hline \triangle 68 \end{array}$$

$$\begin{array}{r} 6. \quad \square 5 \triangle \\ + \triangle 3 \triangle \\ \hline \square 094 \end{array}$$

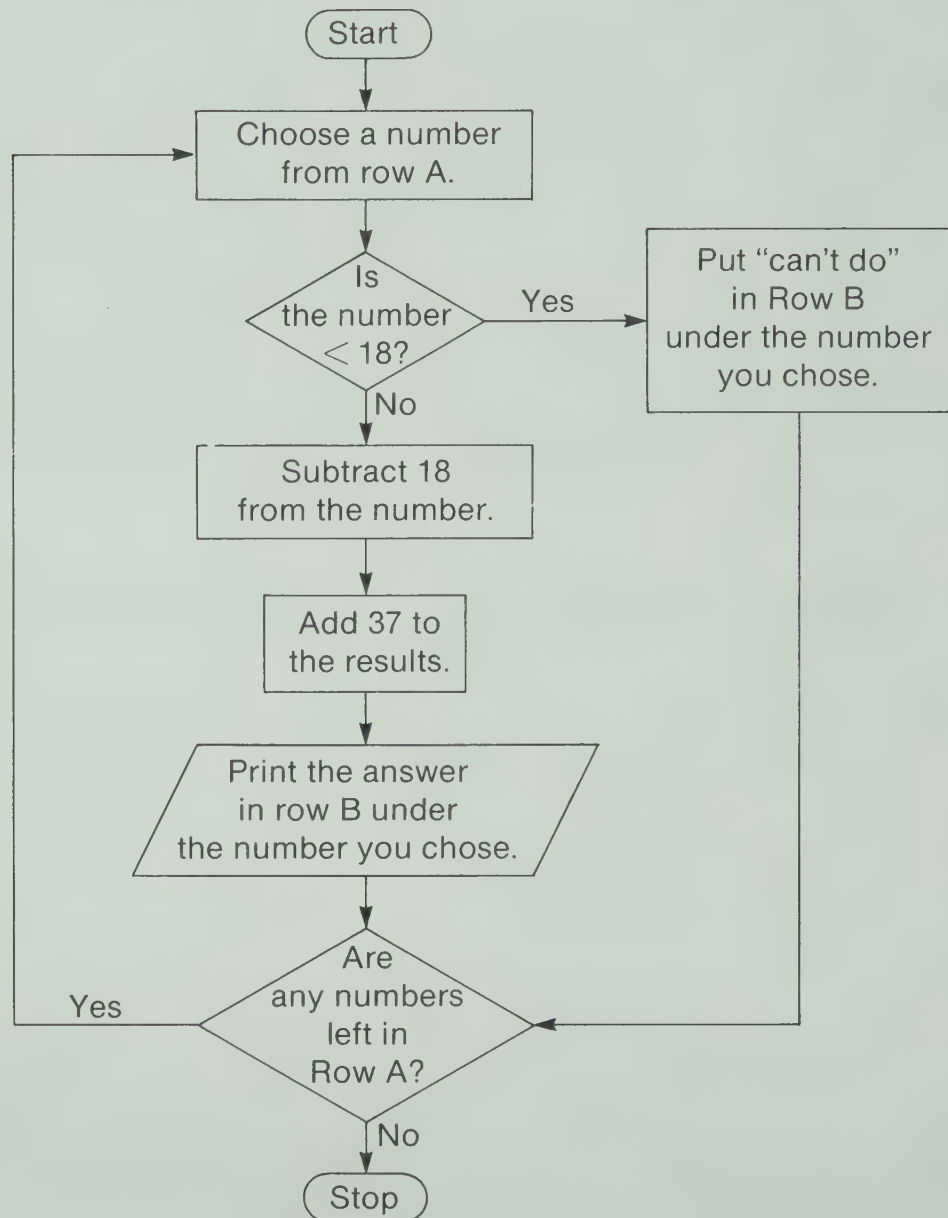
$$\begin{array}{r} 7. \quad 2 \triangle 3 \square \\ + 25 \square 2 \\ \hline \triangle \square \square 8 \end{array}$$

$$\begin{array}{r} 8. \quad 2 \triangle 84 \\ + \square 7 \triangle 5 \\ \hline 8119 \end{array}$$

$$\begin{array}{r} 9. \quad 43 \triangle \square \\ + \square \triangle \square 9 \\ \hline \triangle 101 \end{array}$$

Reading a Flow Chart

Fill in column B in the chart below by following the flow chart.



| | | | | | | | | |
|-------|----|----|----|----|----|----|----|----|
| Row A | 20 | 37 | 75 | 15 | 52 | 18 | 29 | 99 |
| Row B | | | | | | | | |

NAME _____

The Moebius Strip

Cut out strip 1.
Make it into a loop.
Tape the 2 ends together.

Take a red crayon. Draw a line starting
at the inside of the loop and ending where
you began. Do you stay inside the loop? _____

Take a blue crayon. Draw a line starting at
the outside of the loop and ending where
you began. Do you stay outside the loop? _____

How many sides are there in the loop? _____

Cut out strip 2.
Twist one end a half turn.
Make it into a loop.
Then, tape the 2 ends together.

Take a red crayon. Draw a line starting
at the inside of the loop and ending where
you began. Do you stay inside the loop? _____

Take a blue crayon. Draw a line starting
at the outside of the loop and ending where
you began. Do you stay outside the loop? _____

How many sides are there in this loop? _____

This loop is called a *Moebius Strip*. It is
named after a German mathematician who discovered
it in the middle of the 19th century.

Can you think of some practical uses of Moebius Strips?

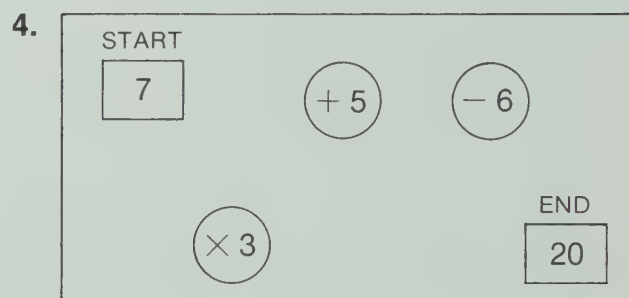
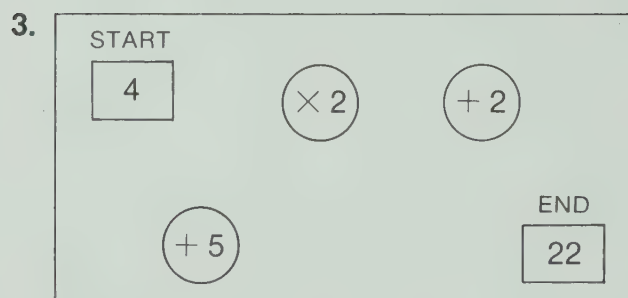
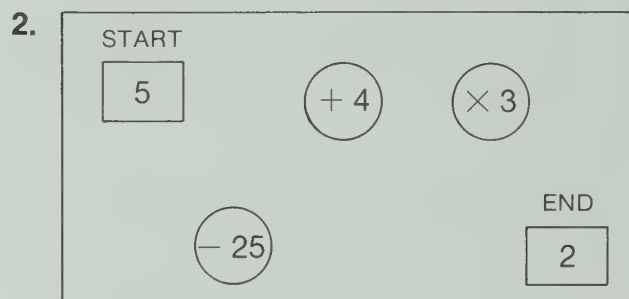
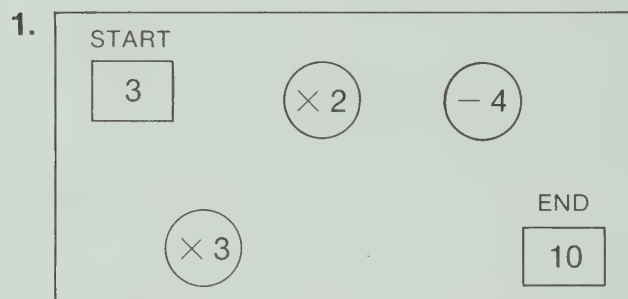


Strip 2

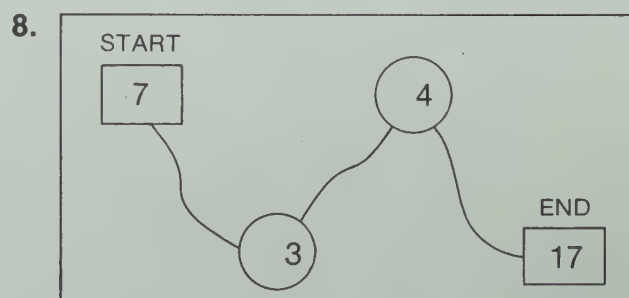
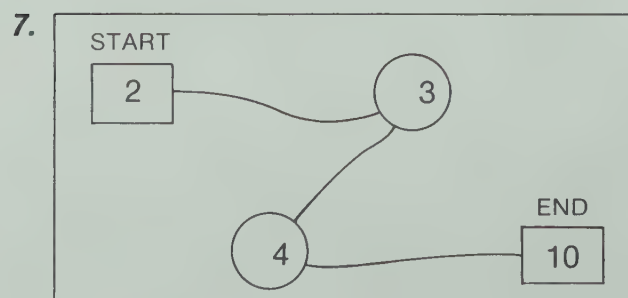
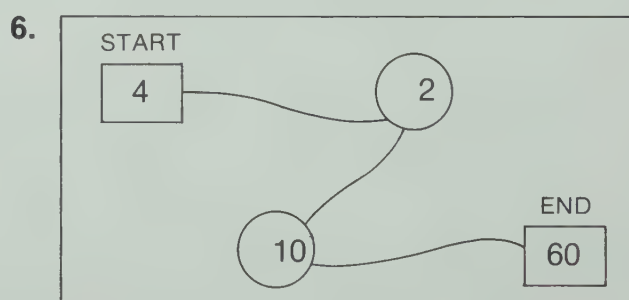
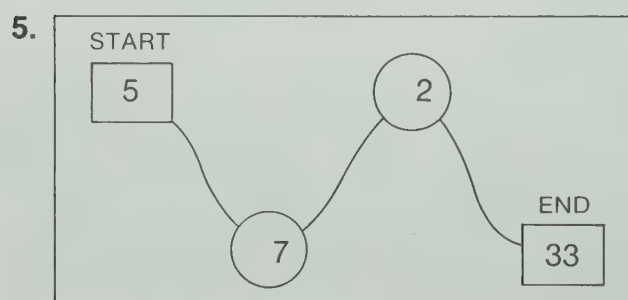
Strip 1

The Order of Operations

Get to the end number by drawing a path from START.
Go through each number only once.



These paths are drawn for you, but the operation signs are missing. Put a +, −, or \times sign in front of each number.



The Sieve of Eratosthenes

A Greek mathematician named Eratosthenes discovered a way to identify prime numbers. His method is called the *Sieve of Eratosthenes*.



Use the Sieve of Eratosthenes to find the prime numbers from 1 to 100.

1. Mark an X through 1. It is not a prime number.
2. Mark a slash / through all multiples of 2, except 2.
3. Mark a circle ○ through all multiples of 3, except 3.
4. Mark a square □ through all multiples of 5, except 5.
5. Mark a triangle △ through all multiples of 7, except 7.

| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|-----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
| 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |

Remember: a prime number has only 2 different factors, itself and 1.

All the numbers left are prime numbers.

6. List the prime numbers from 1 to 100. _____

Magical Number Tricks

Here are some number tricks. If you do them correctly, you will have the same number at the end that you started with in the beginning.

Start with number 3. _____

Multiply by 3. _____

Add 5. _____

Multiply by 2. _____

Subtract 10. _____

Divide by 6. _____



Start with number 2. _____

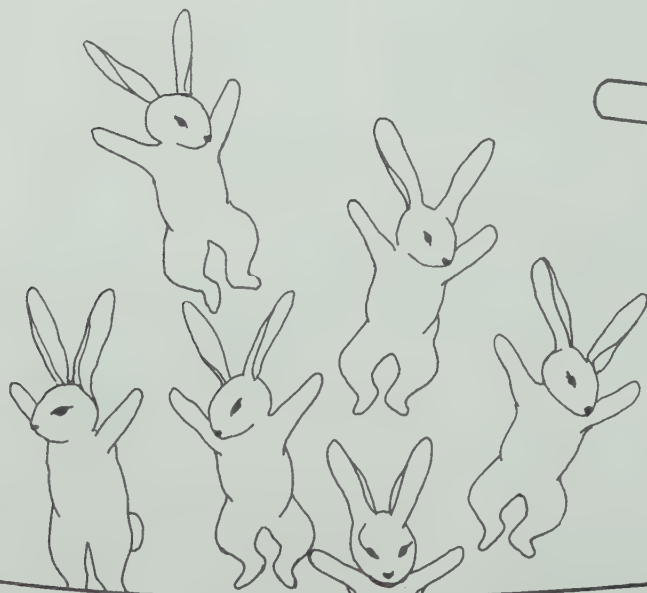
Add 4. _____

Multiply by 8. _____

Divide by 4. _____

Subtract 8. _____

Divide by 2. _____



Pick any number. _____

Put a 0 at the end. _____

Add 4. _____

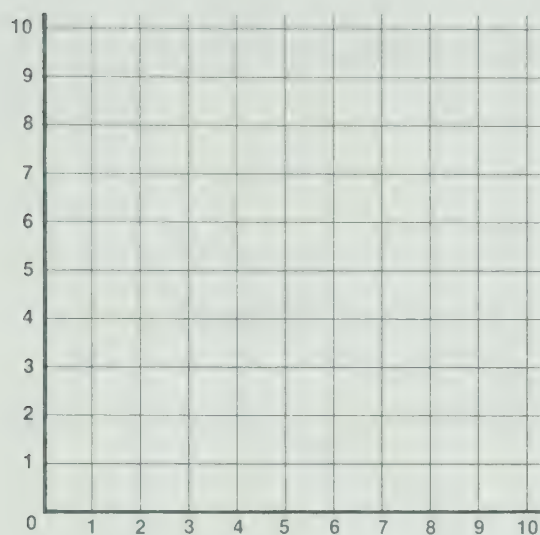
Divide by 2. _____

Subtract 2. _____

Divide by 5. _____

Can you figure out why these number tricks always work?

Plotting Ordered Pairs



| | A | B | C |
|---------------------|-------|-------|-------|
| Given Ordered Pairs | (2,5) | (4,7) | (6,5) |
| New Ordered Pairs | | | |

- Plot the points using the given ordered pairs. Connect the points. What shape did you make?

- Subtract 3 from the second number of each ordered pair. Write the new ordered pairs in the chart. Plot and connect the new points. What shape did you make?

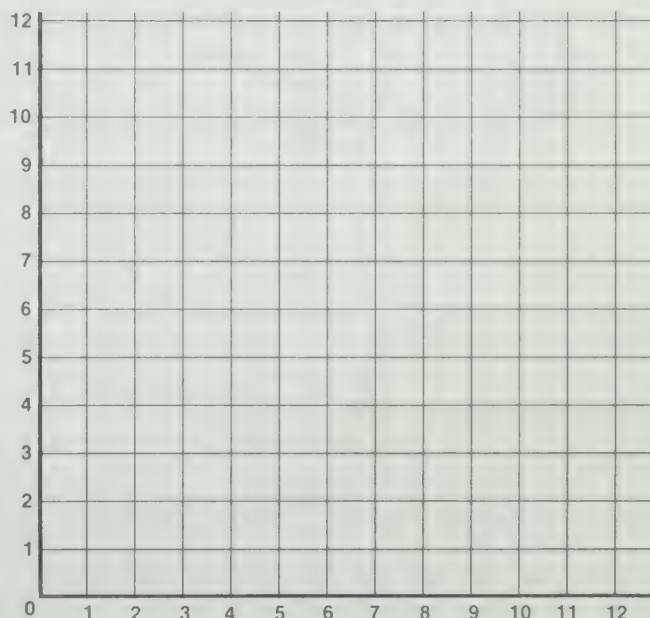
3. Are the shapes congruent? _____

4. Is this motion a slide, a flip, or a turn? _____

| | A | B | C | D |
|---------------------|-------|-------|-------|-------|
| Given Ordered Pairs | (2,2) | (4,2) | (4,4) | (2,4) |
| New Ordered Pairs | | | | |

- Plot these points using the given ordered pairs. Connect the points. What shape did you make?

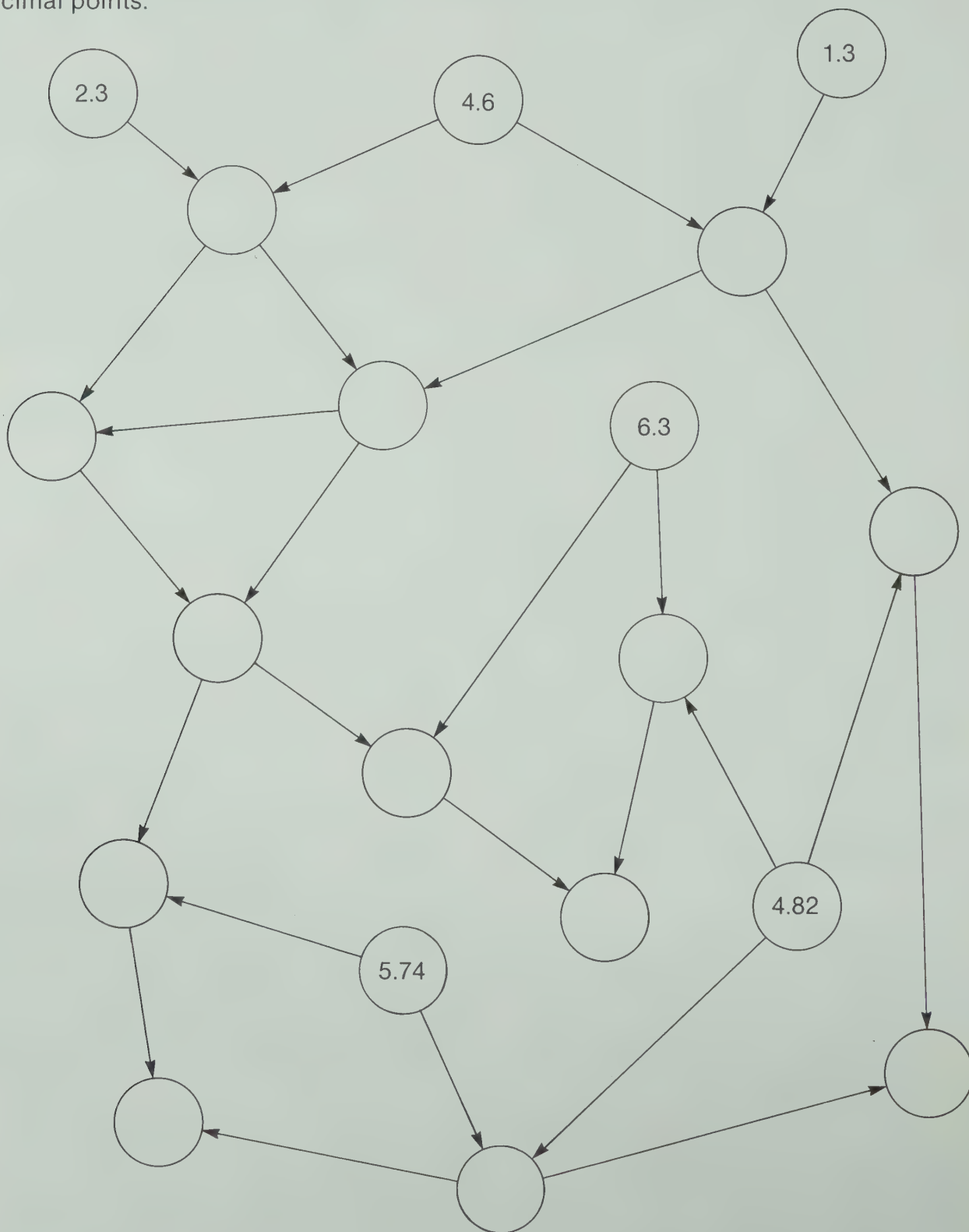
- Multiply the second number of each ordered pair by 3. Write the new ordered pairs in the chart. Plot the new points and connect them. What shape did you make?



- Are the shapes congruent? _____
- What do you think would happen if you multiplied both terms in the ordered pair by 3?

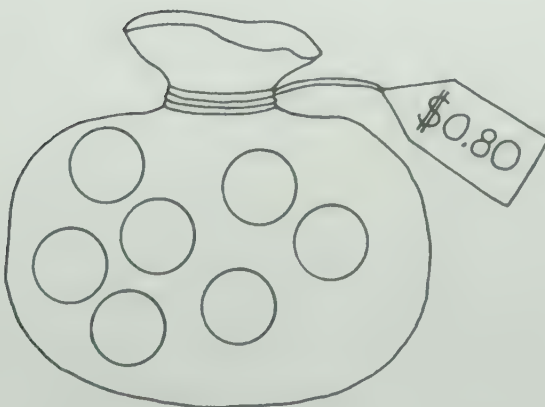
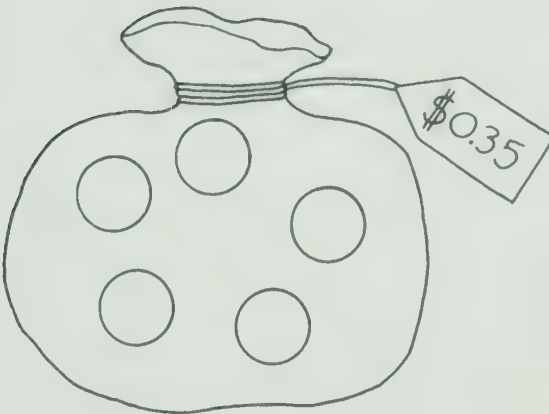
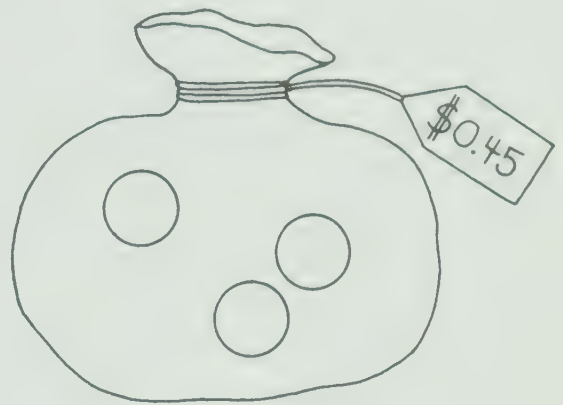
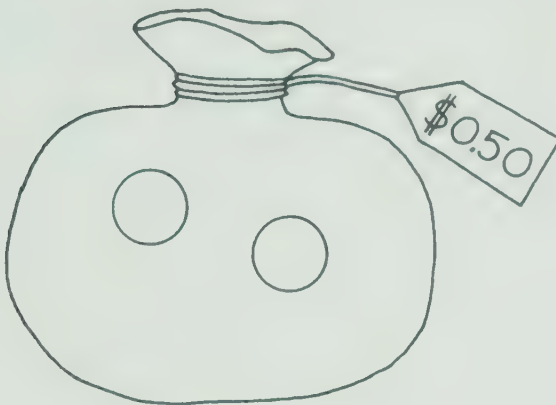
Addition Puzzle

Complete the puzzle by adding the two decimals in the circles whose arrows point to the same empty circle. Remember to line up the decimal points.



Bags of Money

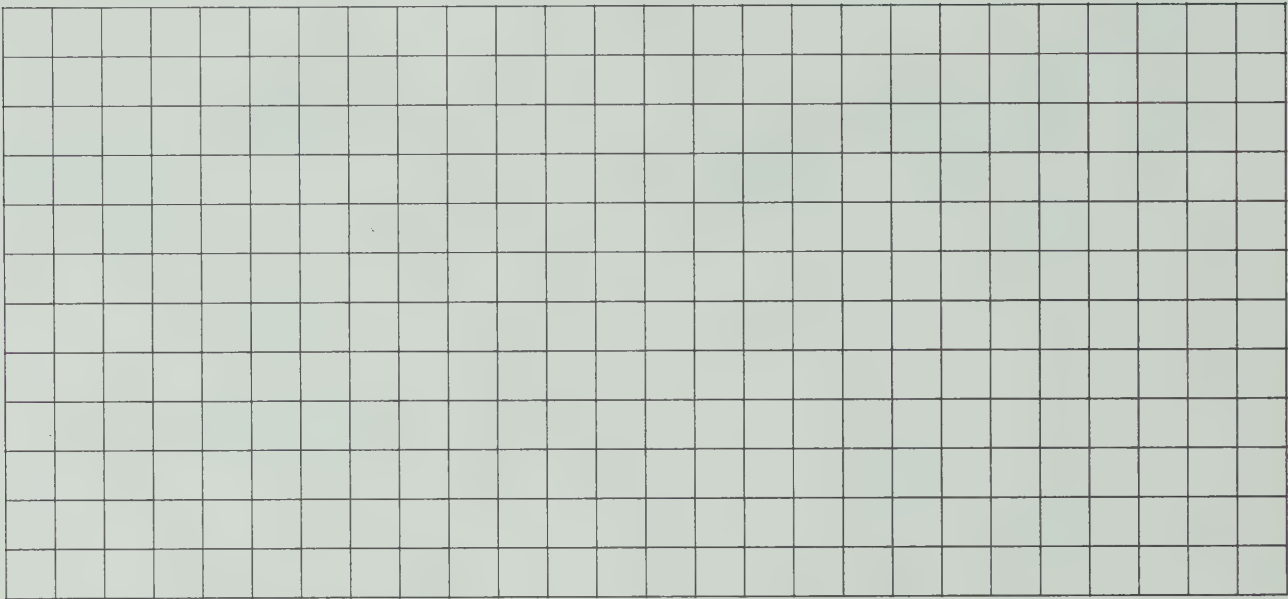
Each bag of money is worth the amount shown. Write the value of each coin on the coin. To make it more fun, the coins were drawn the same size.



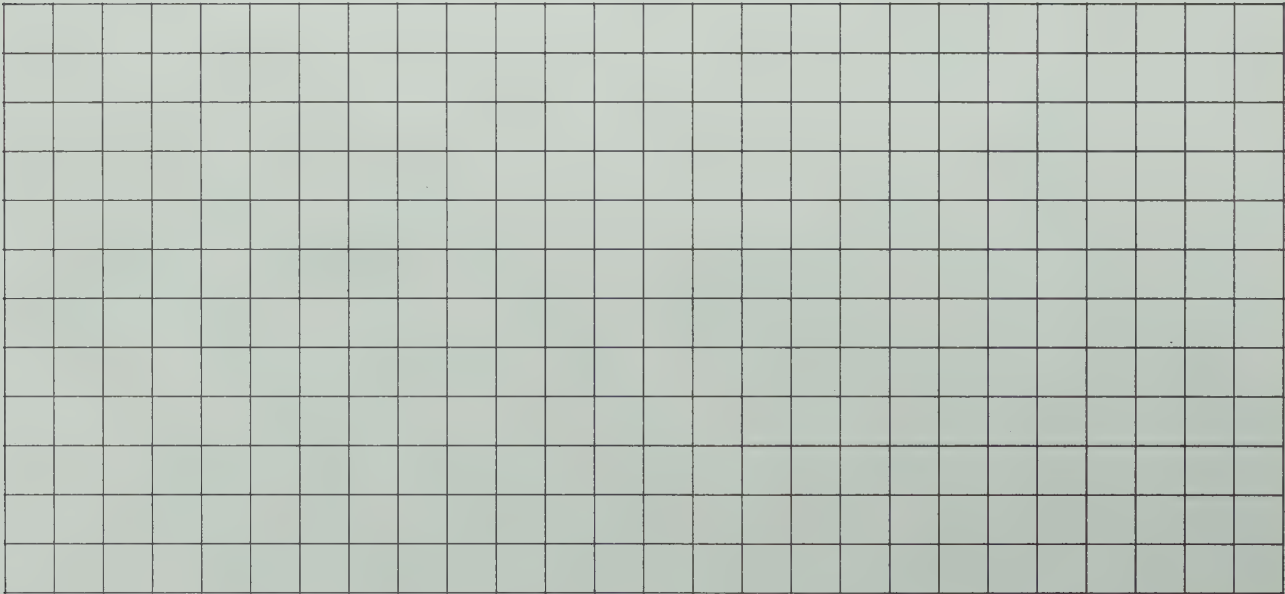
Perimeter and Area

Each square represents 1 square centimetre.

Draw 5 rectangles that have a perimeter of 20.
Write the area of each figure inside the drawings.



Draw 3 rectangles that have an area of 20.
Write the perimeter of each figure next to the drawings.

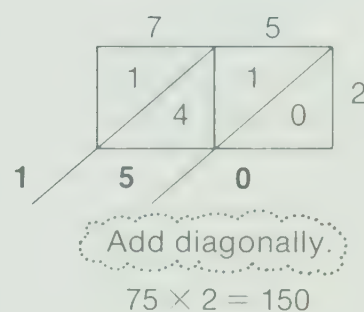
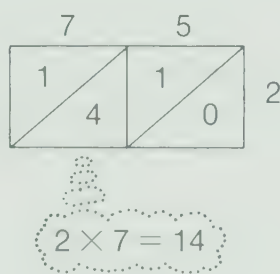
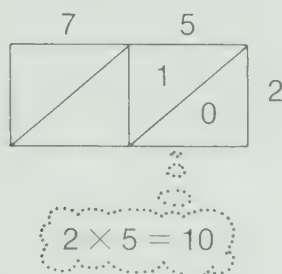


Napier's Bones

A Scottish mathematician named John Napier invented "bones" or "rods" for multiplying.

"Napier's bones" are related to a way of multiplying called lattice multiplication.

Multiply 75 by 2.

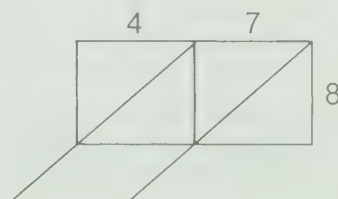
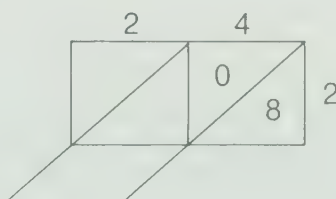
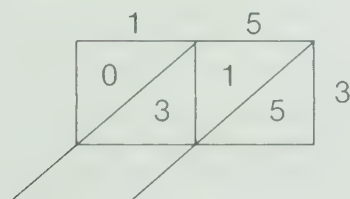


Complete these multiplication problems using the lattice method.

1. $15 \times 3 =$ _____

2. $24 \times 2 =$ _____

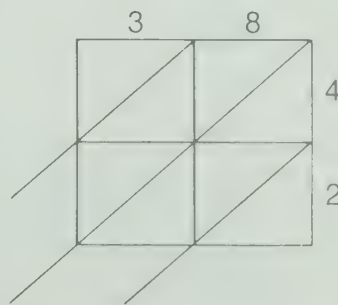
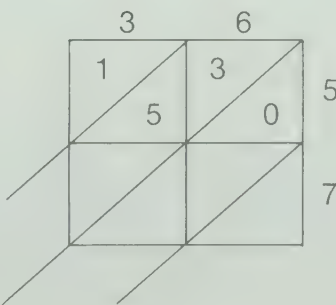
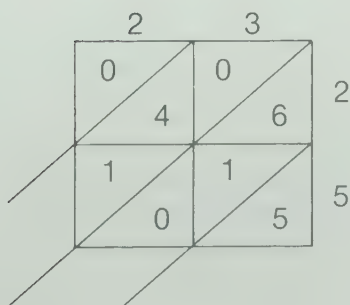
3. $47 \times 8 =$ _____



4. $23 \times 25 =$ _____

5. $36 \times 57 =$ _____

6. $38 \times 42 =$ _____



Dividing Short Cuts

If a number is even, then the number is divisible by **2**. $2 \overline{)64}$

64 is even.
divisible by 2!

If a number ends in 0,
then the number is
divisible by **10**.

$$10 \overline{)730}$$

divisible
by 10!

If the sum of the digits is
a number divisible by 3, then
the number is divisible by 3.

$$3 \overline{)153}$$

$1 + 5 + 3 = 9$
 $9 \div 3 = 3$
divisible
by 3!

If a number ends in a 0 or a 5, then the
number is divisible by **5**.

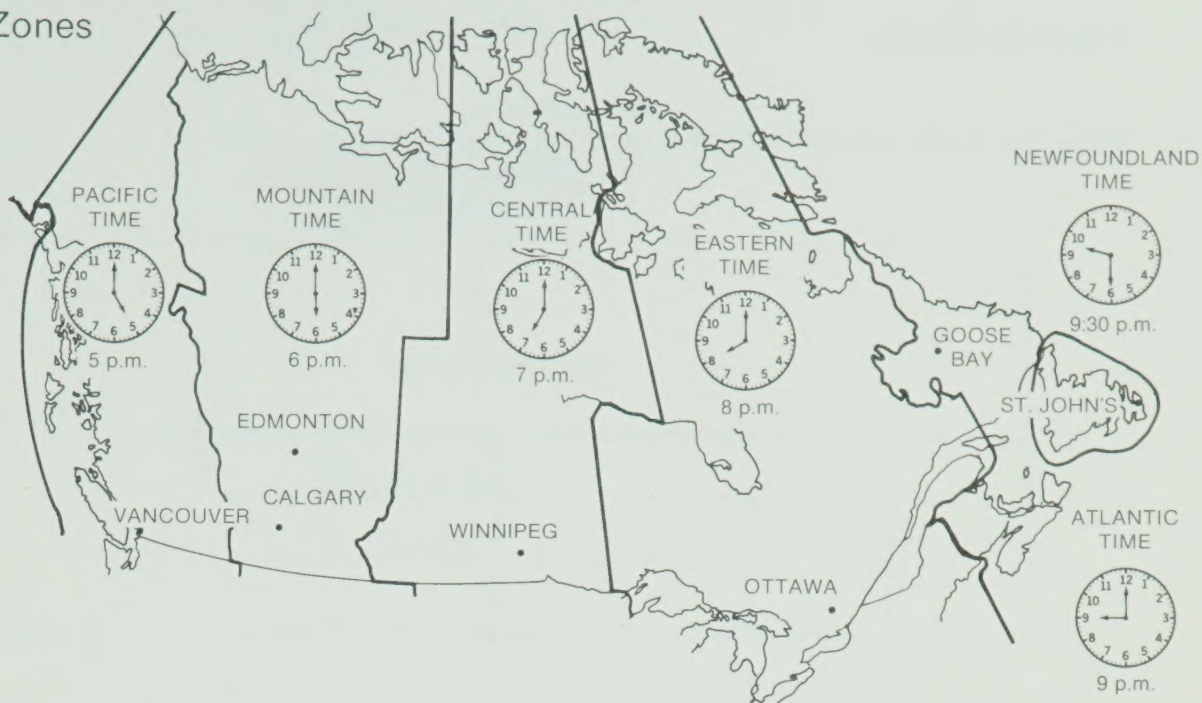
$$10 \overline{)640}$$

divisible by 5!

Place a check in each column if the numbers are evenly divisible.

| | Numbers | 2 | 3 | 5 | 10 |
|-----|---------|---|---|---|----|
| 1. | 78 | | | | |
| 2. | 94 | | | | |
| 3. | 875 | | | | |
| 4. | 321 | | | | |
| 5. | 4320 | | | | |
| 6. | 9972 | | | | |
| 7. | 7438 | | | | |
| 8. | 97 435 | | | | |
| 9. | 84 392 | | | | |
| 10. | 65 430 | | | | |

Time Zones



Canada is divided into 6 standard time zones. Each zone uses a time one hour different from its neighboring zones (except for Newfoundland).

A traveller going west subtracts 1 hour each time he crosses a time zone.

A traveller going east adds 1 hour each time he crosses a time zone.

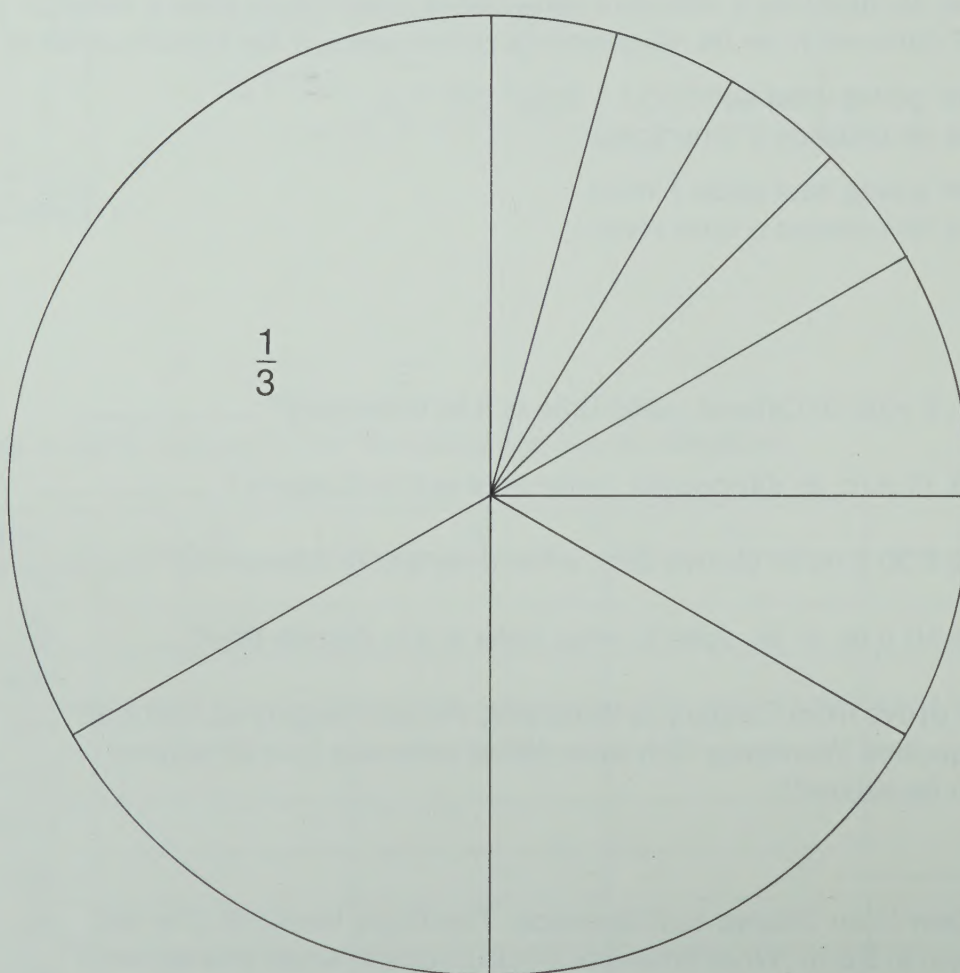
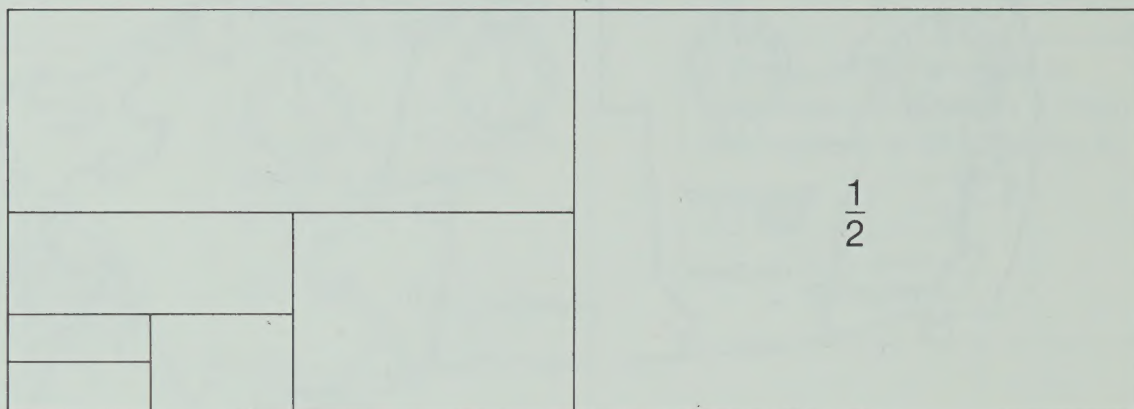
Solve.

1. If it is 8 p.m. in Ottawa, what time is it in Winnipeg? _____
2. If it is 11 a.m. in Vancouver, what time is it in Calgary? _____
3. If it is 7:30 a.m. in Goose Bay, what time is it in Edmonton? _____
4. If it is 10 p.m. in St. John's, what time is it in Goose Bay? _____
5. Mark drove from Calgary to Winnipeg. He left Calgary at 7:30 a.m. He reached Winnipeg 12 h later. What time was it in Winnipeg when he arrived?

6. Pat flew from Ottawa to Edmonton. The flight took 6 h. She left Ottawa at 3 p.m. What time was it in Edmonton when she arrived?

Fraction Sense

Write the fractional value for the sections of each shape.



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